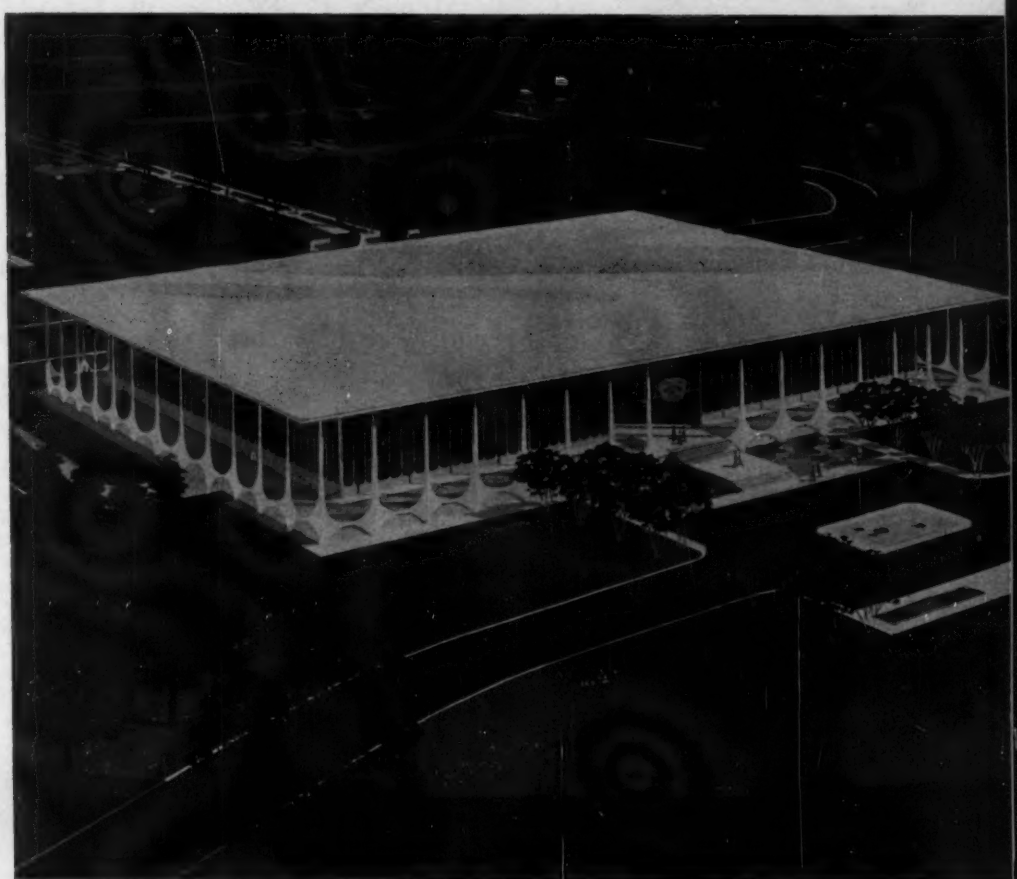
February 17, 1962
Vol. 162 — No. 7

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY



This 2-million-dollar contemporary office building will be erected by General Telephone Co. of Ohio at Marion for occupancy in late 1963. In pattern of white sculptured concrete columns and glass panels, structure is designed to harmonize with classic architecture of nearby Harding Memorial. See story, page 55.

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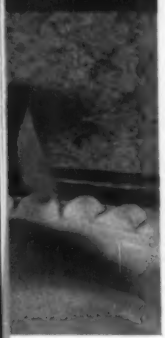

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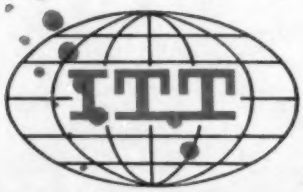

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FLASHES AND PLUGS

LISTEN TO THAT GAL DANCE! Ballerinas may be adding two new items to their traditional tutu costumes—a microphone and transistor radio—if a new idea catches on.

Svetlana Beriosova, appearing with the Royal Ballet in London, had both items sewn into her dress so that she could be heard when speaking her lines in the premiere of Stravinsky's ballet "Persephone". This is the first time a Royal Ballet ballerina has had to speak while performing.

It was necessary for the Covent Garden opera house to obtain a government license to operate a mobile "broadcasting station."

Miss Beriosova had some anxious moments on the third night's performance.

When her partner lifted her in an energetic dance, one of the wires became disconnected, and the radio didn't work.

She spoke her next lines as loudly as she could from the footlights. At the first opportunity, she went into the wings to be connected again.

•

KNOW-IT ALL. A Milwaukee, Wis. attorney had cause recently to marvel at the super efficiency of Wisconsin Telephone Co. information operators.

For four years the Christmas cards he had been sending to a young lady had been returned by the post office.

Deciding to trace his friend, he dialed information and asked for the telephone number at the gal's old address. He was told that it was now a shopping center.

He then gave the young woman's name and asked if a telephone was listed for her.

The amazingly helpful operator proceeded to inform the lawyer that the gal in question was now married. She then gave him the young lady's married name, address and telephone number.

The attorney was floored. Just to make sure that all the info was correct, he called his friend. When he told her how he'd been able to trace her, she didn't marvel as much as he had.

You see her mother is an information operator, and by an amazing coincidence, she just happened to get the call asking for information about her daughter.

•

IN THE AIR ABOUT PLANE. Fred Becker Jr., a salesman for the New Jersey Bell Telephone Co., has a problem. He doesn't know what to do with a new Piper Colt airplane he recently won.

Becker, who was a contestant on "The Price is Right" television show, won the airplane as part of about $27,000 worth of other prizes. These included a $6,200 mink coat, a week in Miami, a diamond watch, a pre-fab house, a bedroom suite, hi-fi and TV sets and assorted barrels of frankfurters, pickles, cheeses, frozen foods and $500 worth of nickels.

Becker's seven-year-old son wants Dad to keep the plane. But although Becker is a World War II Army Air Force veteran, it's been 14 years since he's flown, and he has no pilot's license.

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Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

SINCE 1901

February 17, 1962

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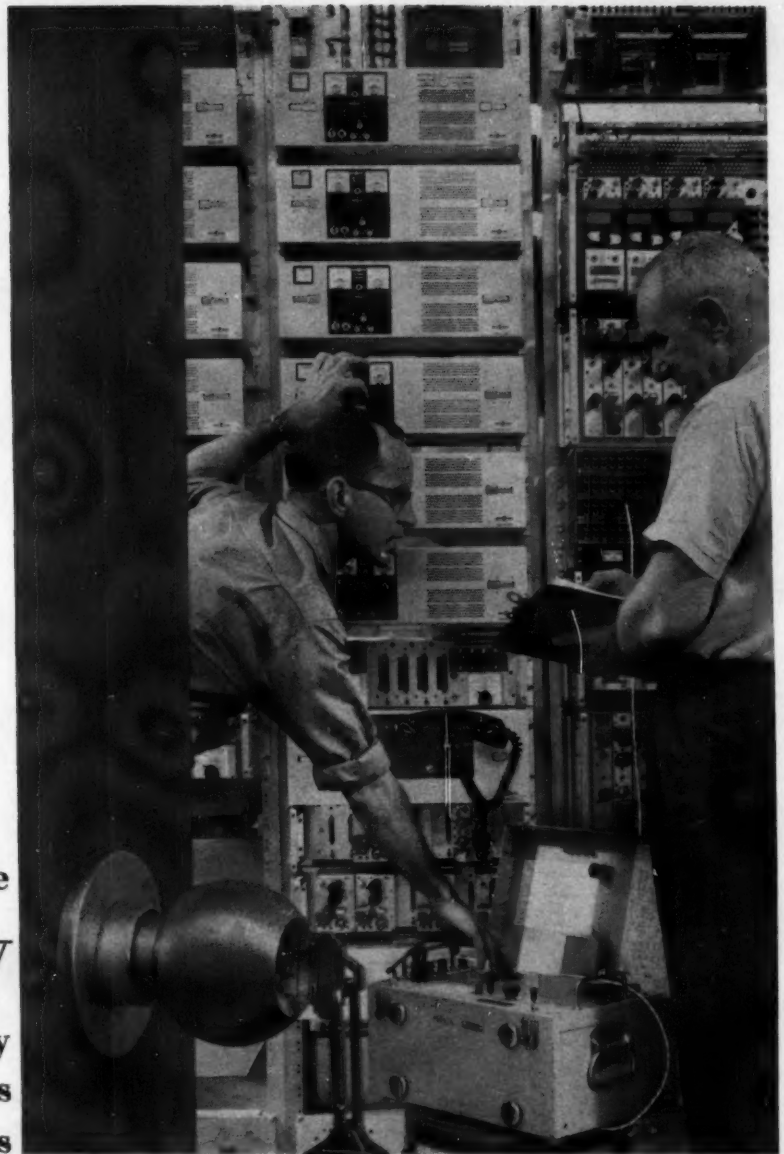

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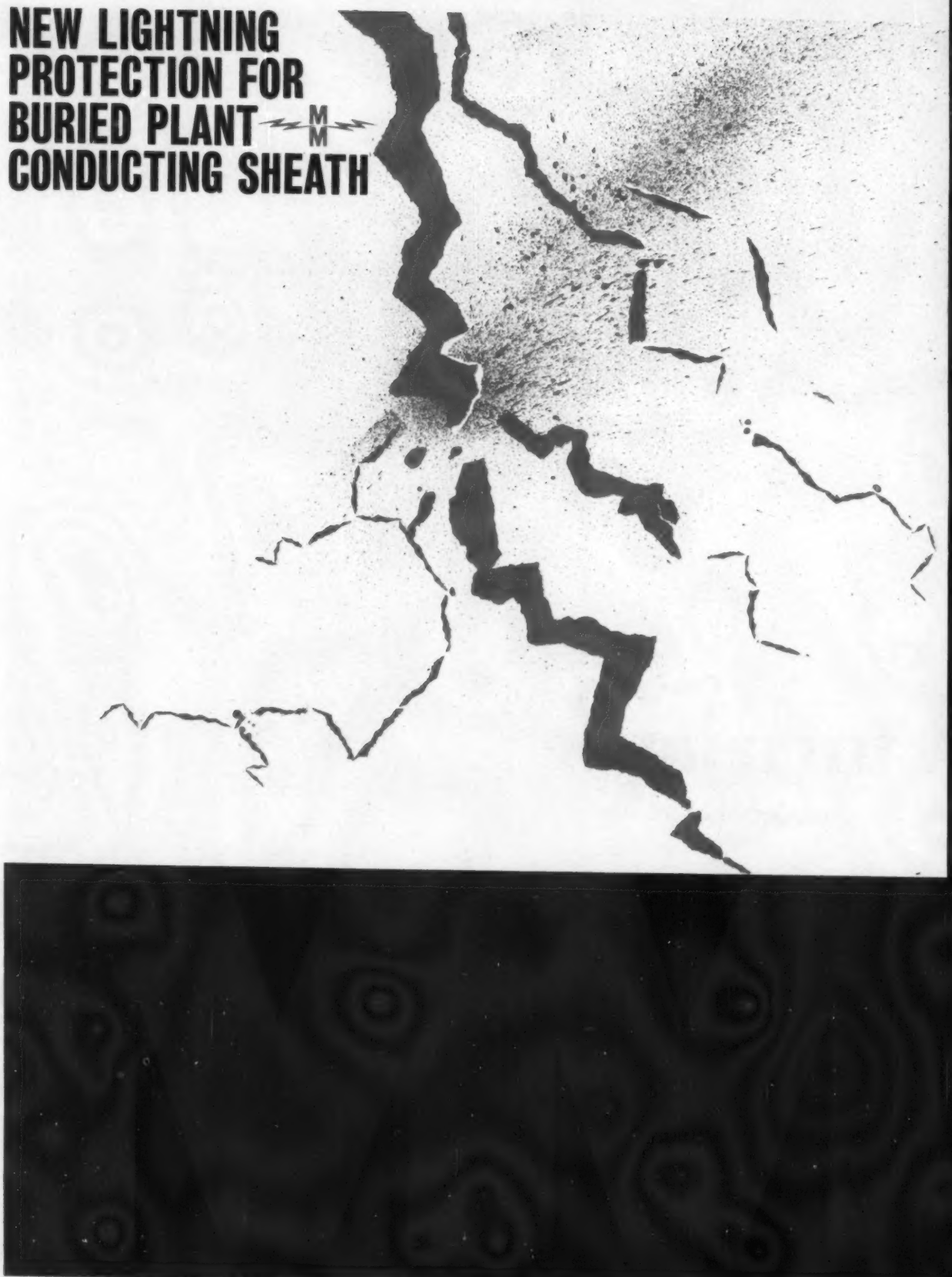

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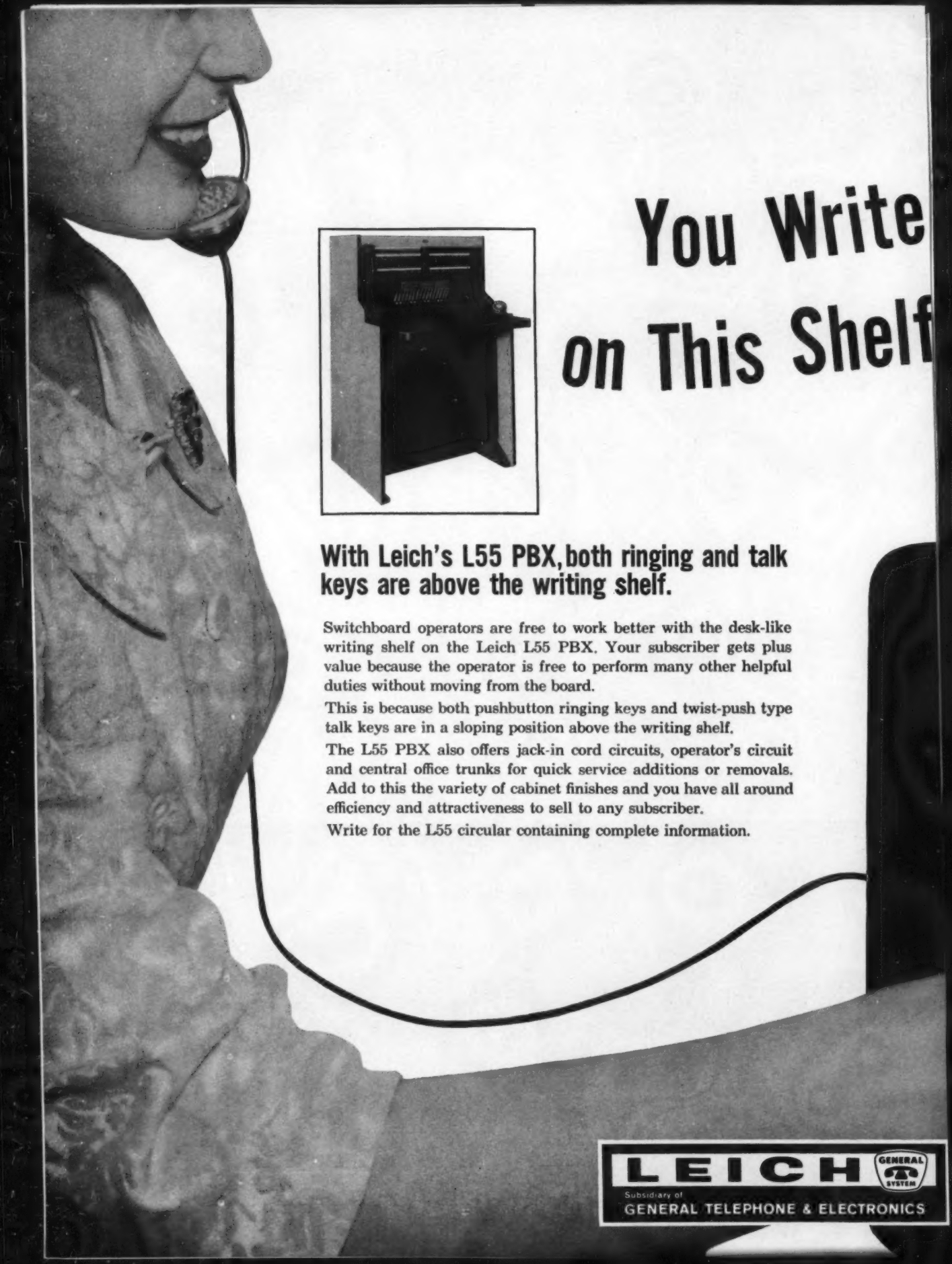

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With Leich's L55 PBX, both ringing and talk keys are above the writing shelf.

Switchboard operators are free to work better with the desk-like writing shelf on the Leich L55 PBX. Your subscriber gets plus value because the operator is free to perform many other helpful duties without moving from the board.

This is because both pushbutton ringing keys and twist-push type talk keys are in a sloping position above the writing shelf.

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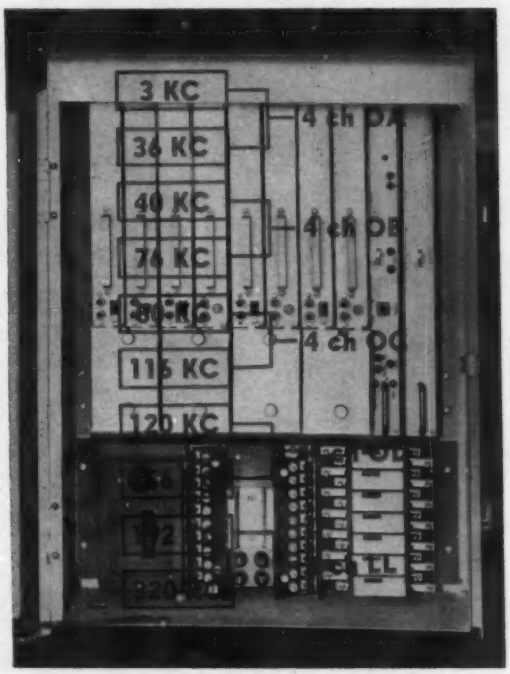

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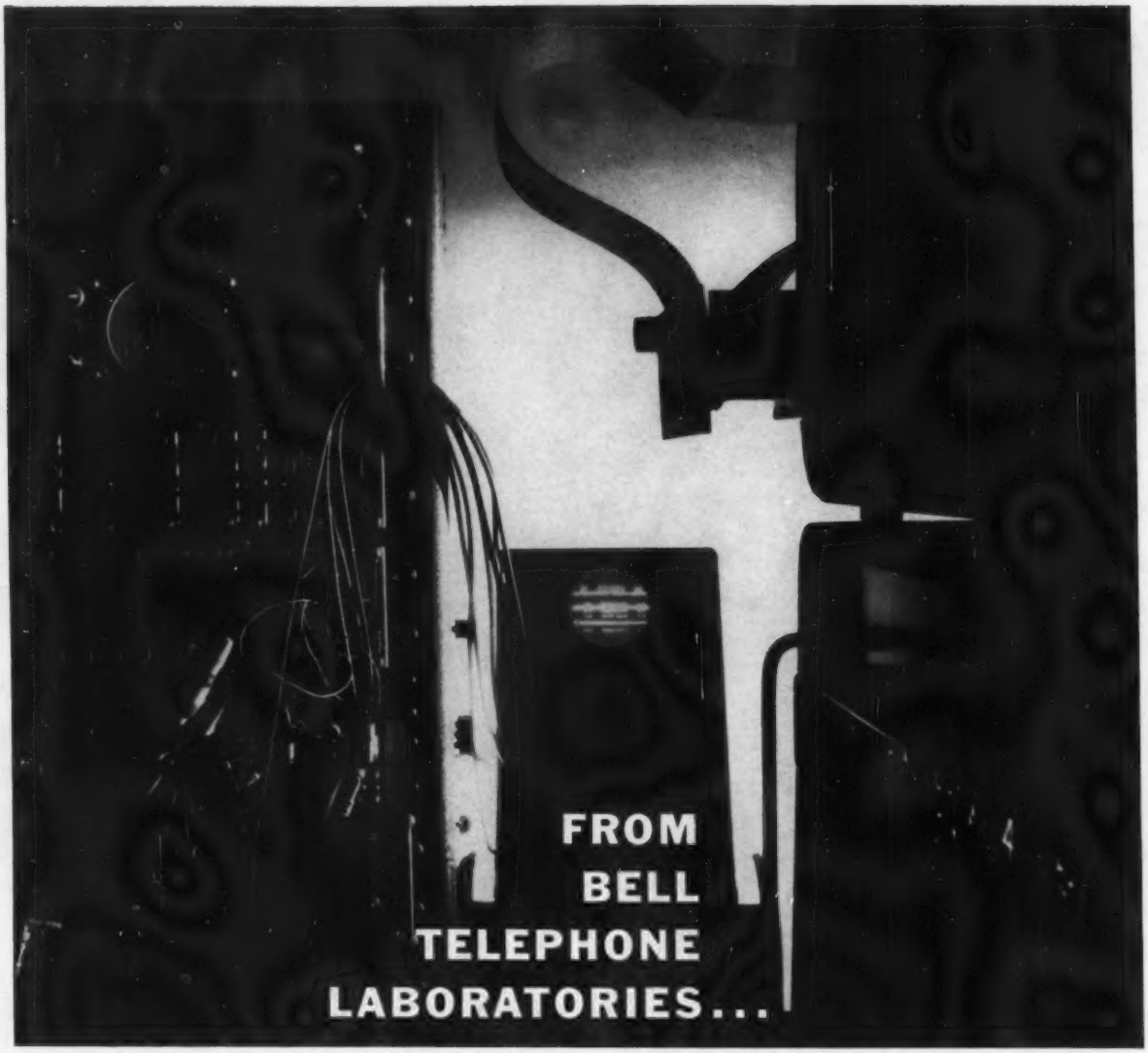

The fundamental capabilities of pulse transmission are under study at Bell Laboratories. At a transmission rate of 200 million bits per second, for example, PCM could simultaneously transmit 3000 telephone conversations on a single circuit.

AN INTRIGUING DEVELOPMENT IN TELEPHONE TRANSMISSION

Bell Laboratories engineers have applied a method of transmitting telephone conversations which uses a series of ON-OFF pulses rather than the continuous electrical signals generally used since the time of Alexander Graham Bell's first famous message.

The method is called Pulse Code Modulation. With PCM the telephone caller's voice is sampled every 1/8000th second. Each sample is then encoded into a series of ON or OFF pulses, and these pulse groups are sent over the regular telephone line. Spaced periodically along the line are repeaters which clean up and amplify the pulses. At the receiving end the pulse groups are decoded and the caller's voice is reconstructed.

Since the pulses are of very short duration, it is possible to interlace many different voice messages and send them all over one line. For example, in a PCM system now operating between Newark and Passaic, N. J., a single pair of wires carries as many as 24 one-way voice signals.

Other systems for carrying more than one voice signal over a single telephone line have been developed and are in widespread use. PCM, however, provides special advantages, for example, in cable circuits connecting telephone offices in a congested metropolitan area.

PCM in its present practical form for cable circuits has been made feasible by Bell Laboratories' invention and development of the transistor, the key element necessary for a small economical system.

Currently, PCM systems carrying much larger bundles of communication channels are under study at Bell Laboratories. The goal as always is the improvement of Bell System communication services.

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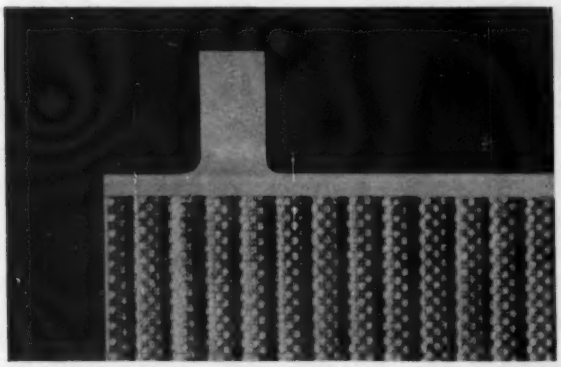
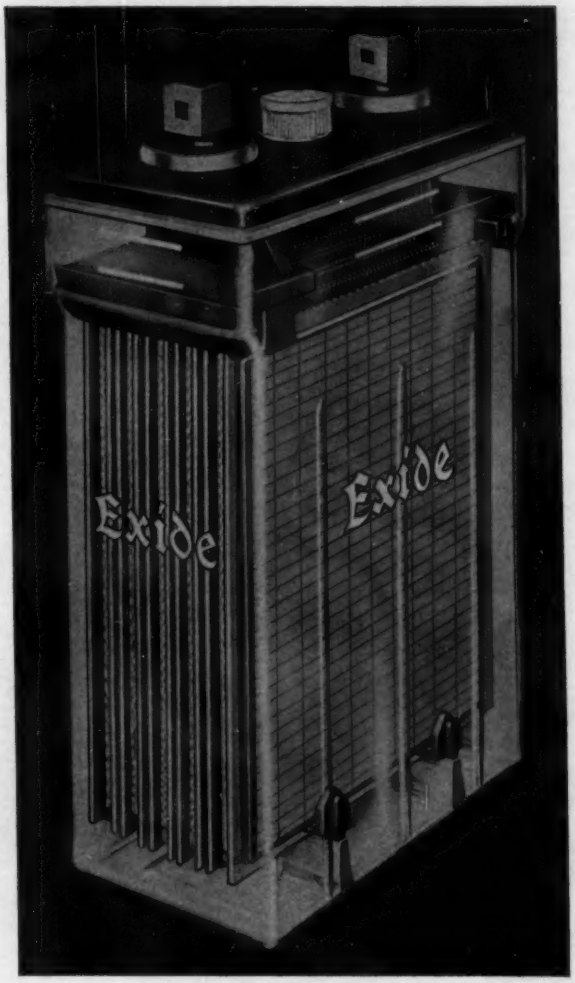
The Exide-Ironclad tubular positive plate battery was originally designed for tough cycling applications such as electrically powered trucks. During the past 20 years, its long life potential in stationary service has been proven by actual application experience. This new battery, however, is a new basic design and incorporates new features for stationary use that make it vastly superior — with even longer life potential and greater dependability.

The complete Exide battery line for telephone service also includes the pasted plate Exide-Tytex with Silvium* or calcium grids, the long-life Exide-Manchex Planté Battery, and the low-maintenance pocket positive nickel-cadmium. Only Exide offers so broad a line to meet your needs.



The Exide-Ironclad positive plate — Active material is held firmly captive inside the square-shaped tubes—in good contact with the corrosion-resistant Silvium grid. Thousands of tiny openings give free access to electrolyte, prevent escape of active material. This unique construction results in long battery life, plus more power per pound of material and unit of volume than any other stationary battery.



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There are three parts to your total battery expense: the battery itself, the rectifier, and service required. Exide offers this complete power package from one dependable source. You get the battery you need, the rectifier to meet your battery requirements, and the service of factory trained, factory-supervised technicians to keep both battery and rectifier in top condition. Write for complete information. Exide Industrial Marketing Division, The Electric Storage Battery Company, Philadelphia 20, Pa.

*Silvium is Exide's patented grid alloy, proved up to 100% more corrosion resistant than regular lead-antimony grids.

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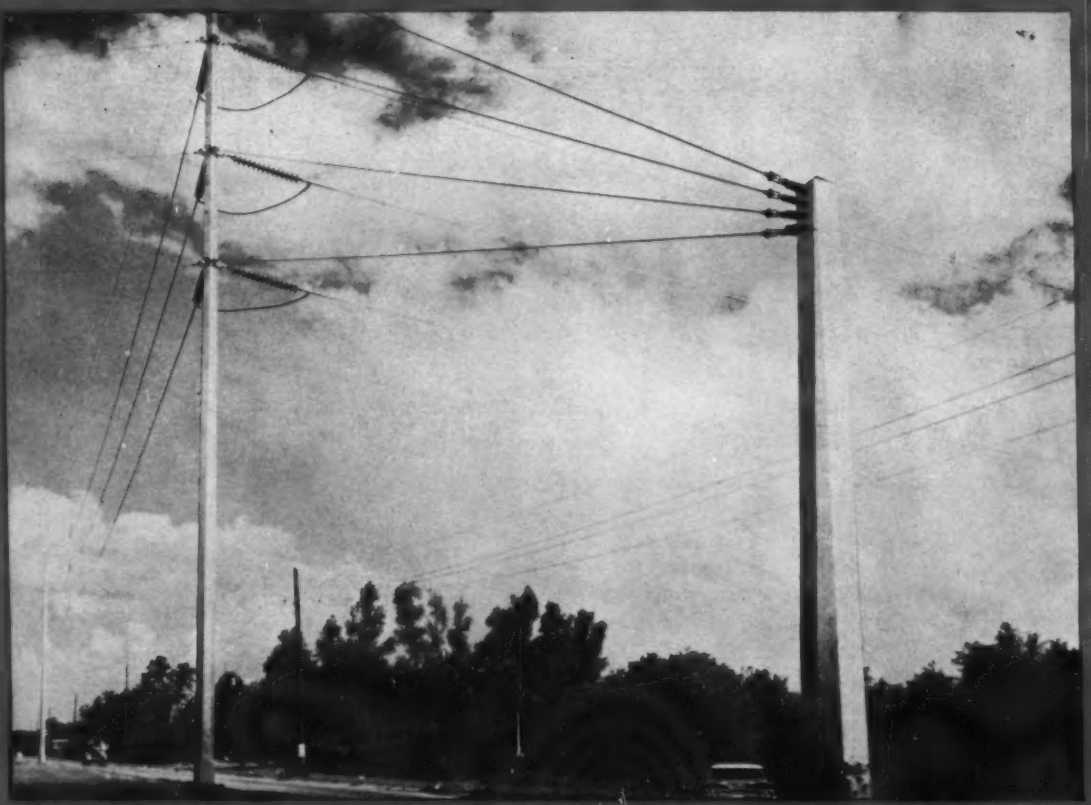
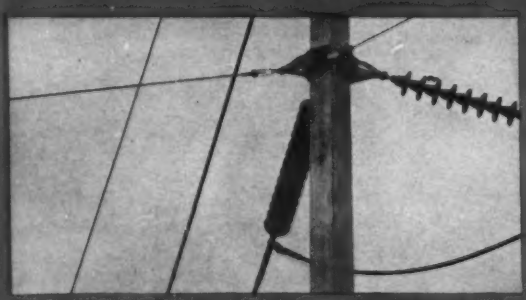
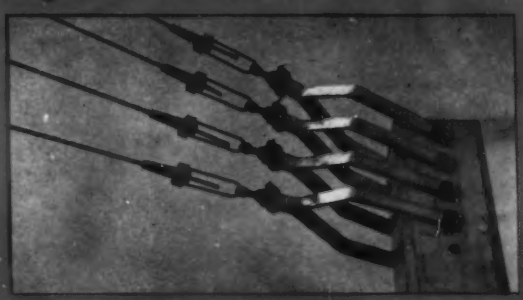


This new 115 KV distribution line was designed to withstand hurricane force





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IN THE NATION'S CAPITAL

BY LAWRENCE J. HOGAN, WASHINGTON EDITOR
and President, Larry Hogan Associates,
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President Kennedy sends Congress bill to create privately-owned space satellite communications system . . . Although differences over President's broad-ownership concept may arise, his decision in favor of private enterprise, despite pressure for government ownership, is hailed by business.

THE LONG-AWAITED message from President Kennedy on space satellite communications has been sent to Congress and the administration's bill has been introduced. (See full text of President's letter to Congress on page 21.)

If Congress approves the President's legislative proposal, a billion-dollar private corporation to build and operate a satellite communications system would be in operation by the end of 1962, although no one knows when the space communications system would become operational. Instead of the limited corporation recommended by the *Ad Hoc* Committee, the President's proposal will enable anyone, including private citizens, to buy stock in the corporation.

Kerr Introduces Bill

Senator Kerr (D., Okla.) who has a bill of his own in the hopper on space communications, introduced the administration's bill in the Senate on Feb. 7 on behalf of himself and Senator Magnuson (D., Wash.). He recommended that it be referred to the Senate Committee on Aeronautical and Space Sciences, which was done. Hearings are expected to begin on Feb. 26.

In commenting on the bill on the Senate floor, Kerr said:

"The most important and promising peaceful program resulting thus far from our nation's extensive space program is the communications satellite system which is now developed to the point where it can become operational in a relatively short time. It is essential that this be done without delay and on the soundest possible organizational base.

"In my judgment, the most effective means of insuring that the program is put into operation at the earliest possible time and operated successfully is by creating a corporation, operated for profit, within our private enterprise system—for traditionally our nation's communications systems which have served our country so well have been privately owned companies. Accordingly, at the beginning of this session I introduced a bill which would authorize private ownership of the U. S. portion of a worldwide communications satellite system. . . .

Lauds Private Ownership

"Although the proposed bill transmitted by the President provides for a corporate structure different from that contemplated in the bill I introduced, both strive for the same goal; namely, a privately owned corporation in which the existing American companies engaged in the international communications business would be able to invest, with their investments treated the same as the acquisition of new equipment and thus includible in their rate bases.

"This important feature permitting the rate of return for all communications services to be spread over a broad base should insure lower charges for communications satellite services. The principal new feature of the administration bill is a provision for two classes of stock, one to be non-voting, and to receive no dividends but, as described earlier, includible in the rate bases of the investing communications carriers; the other, open to the public, would be voting stock upon which dividends would be paid. . . .

"I believe that the Administration's proposal merits careful consideration, and accordingly the senior senator from Washington, chairman of the Commerce Committee, and I have agreed to introduce the administration bill for appropriate reference. . . .

Urges Prompt Action

"The enactment of legislation to create a corporation which would make it possible for this nation to translate its leadership in this phase of space technology into an actual program benefitting the people of this country as well as those of the other countries of the world should be achieved promptly. I can give assurance that insofar as the Space Committee is concerned this item has a high priority and will be taken up at an early date."

Although some may question the soundness of the President's broad-ownership concept for the space satellite corporation, all businessmen should exhale a deep sigh of relief that he has adhered to his previously announced intention that the system should be privately owned. He was under considerable pressure from powerful Capitol Hill and executive branch liberals to place the system under government ownership. At least for the time being, a "TVA in space" has been averted.

President Thanks FCC

The day before the President released his message he wrote a letter to FCC Chairman Newton Minow in which he said:

"I thank you for your letter of last month detailing the views of the Federal Communications Commission on the most effective means for establishing an instrumentality for owning and operating a commercial communications satellite system.

"I am sending to the Congress to-

morrow a draft proposal for establishing a privately owned corporation. Although it does not follow the precise form recommended by the commission, it takes into account the principal point made in your letter, namely, the desirability of permitting investment in the new corporation to be treated as a part of any communication carrier's international communications rate base.

"The points raised by the commission in your letter have been exceedingly helpful to our consideration of this important issue, and I hope that you will express my appreciation to the other members of the commission."

Telecommunications Director

In his message to Congress, the President also indicated that he will set up a post of Director of Telecommunications Management in the Office of Emergency Planning. He said he would "rely heavily" on this individual to coordinate the various government agencies involved in the space communications work.

The new corporation envisioned by the administration would (1) furnish channels of communication to authorized users, including the U.S. Government; (2) acquisition and ownership of satellites, ground terminals, and other such facilities; (3) conducting of research and development programs; and (4) purchasing of satellite launching and related services from the U. S. Government.

Convention Calendar

1962

Association	*Date*	*City*	*Hotel*
Minnesota	**Feb. 25, 26, 27 and 28**	**Minneapolis**	**Radisson**
Louisiana	**Feb. 28; Mar. 1**	**New Orleans**	**Monteleone**
Kentucky	**Mar. 6**	**Lexington**	**Phoenix**
Texas	**Mar. 11, 12 and 13**	**Dallas**	**Sheraton-Dallas**
Iowa	**Mar. 19 and 20**	**Cedar Rapids**	**Roosevelt**
Ohio	**Apr. 3 and 4**	**Columbus**	**Deshler Hilton**
Nebraska	**Apr. 18 and 19**	**Omaha**	**Sheraton-Fontenelle**
Wisconsin	**May 8 and 9**	**Milwaukee**	**Plankinton**
Indiana	**May 9 and 10**	**Indianapolis**	**Claypool**
Kansas-Missouri*	**May 21 and 22**	**Kansas City, Kan.**	**Town House**
Illinois	**May 24 and 25**	**Springfield**	**Abraham Lincoln**
Pennsylvania	**June 4, 5 and 6**	**Bedford**	**Bedford Springs**
New York	**June 11, 12 and 13**	**Whiteface**	**White Face Inn on Lake Placid**
California	**June 13 and 14**	**San Francisco**	**Jack Tar**
Washington-Oregon*	**June 21 and 22**	**Portland, Ore.**	**Sheraton-Portland**
Tennessee	**Sept. 5 and 6**	**Nashville**	**Hermitage**
Arkansas	**Sept. 10 and 11**	**Hot Springs**	**Arlington Hotel**
Nevada	**Sept. 11, 12 and 13**	**Sparks**	**Sparks Nugget**
Michigan	**Sept. 18, 19 and 20**	**Lansing**	**Jack Tar**
Rocky Mountain	**Sept. 19, 20 and 21**	**Salt Lake City, Utah**	**Utah Hotel Motor Lodge**
New England	**Oct. 1, 2 and 3**	**Poland, Me.**	**Poland Spring Hotel**
USITA	**Oct. 22, 23, and 24**	**Chicago**	**Conrad Hilton**
Virginia	**Nov. 8 and 9**	**Roanoke**	**Hotel Roanoke**
Oklahoma	**Nov. 14 and 15**	**Oklahoma City**	**Skirvin**

***Joint meeting**

Separations Procedures Changed

The Federal Communications Commission announced that following discussions with representatives of the Bell System and the Committee on Communications Problems of the National Association of Railroad and Utilities Commissioners (NARUC), it has approved on an interim basis certain modifications in the separations procedures now employed in the apportionment of costs of the Bell System between intrastate and interstate services.

The commission has recommended to NARUC—and the association's Committee on Communications Problems concurs—that these modifications be incorporated in the NARUC-FCC Separations Manual. The Bell System has agreed to make the changes effective Apr. 1, 1962, contingent upon approval of the NARUC Executive Committee, which is scheduled to meet Feb. 28, and of the association as a whole at its next convention.

The changes in apportionments of costs would result in a transfer of approximately 46 million dollars in annual revenue requirements from intrastate to interstate operation. The effect on the level of interstate earnings would be the same as if there had actually been a reduction in interstate toll rates in the same amount. However, FCC pointed out that its purpose was not to make a determination of the proper earnings level of interstate business, but rather to effect appropriate changes in separations procedures.

Sees Intrastate Toll Cut

FCC said it is aware that intrastate message toll rates in most instances are higher than interstate rates for comparable distances. It was emphasized that these changes in separations procedures would make it possible for intrastate message toll rates to be reduced where appropriate, tending to alleviate the disparities which exist between interstate and intrastate message toll rates.

The commission claims that the changes provide for the use of less complex and more economical procedures consistent with current operating conditions. The principal items consist of eliminating, for the purposes of separation computations, certain subdivisions of plant and expense classes presently recognized, and adopting new methods for determining the separation of expenses for local commercial operations.

International Revenues Up

International telephone revenues of U. S. operating companies are expected to exceed 67 million dollars in 1962, compared to an estimated 58 million dollars in 1961, the Business and Defense Services Administration of the U. S. Department of Commerce, has reported. Demand for international service is continually increasing, the report stated.

A major portion of the significant gains in telephone revenue from 1956 through 1961 can be attributed to increasing traffic over new submarine cables. Until 1956 only one cable was in place, U. S.-Cuba. Five new ones went into service during the period 1956-61: New York-London via Newfoundland; State of Washington-Alas-

(Continued on page 58)

President's Message on Space Communications

FOLLOWING is the text of a letter from the President to the President of the Senate and the Speaker of the House of Representatives:

"This nation's space program has introduced a new dimension to progress. An increasing flow of peaceful benefits, both national and international, is materializing from our efforts to probe this new frontier. One of the most practical examples of our growing space competence is in the field of communications. Our intensive research and development in the field of communications satellites have brought us to the point where we are now certain of the technical feasibility of transmitting messages to any part of the world by directing them to satellites for relay. This will provide an alternative means to existing transoceanic cable and microwave radio systems, and, even more importantly, will permit ready communication among distant corners of the world. The proposed legislation which I am transmitting with this letter will enable us to translate this communications competence into actual performance. It is, therefore, a measure of immense long-range importance.

"This bill provides for the establishment, ownership, operation, and regulation of a commercial communications satellite system in accordance with the principles set forth in my statement of guidelines issued last July 24. In my judgment, a new Communications Satellite Act is required to provide an appropriate mechanism for dealing effectively with this subject—a subject which, by nature, is essentially private enterprise in character but of vital importance to both our national and international interests and policies.

"Among the policy objectives pursued in the preparation of this measure have been the assurance of global coverage; cooperation with other countries; expeditious development of an operational system; the provision of service to economically less developed countries as well as industrialized countries; efficient and economical use of the frequency spectrum; nondiscriminatory access to the system by authorized users; maximum competition in the acquisition of equipment and services utilized by the system; and the strengthening of competition in the communications industry.

"Within this policy framework, particular attention has been given to the question of the ownership of the entity that will operate this system. Throughout our history this country's national communication systems have been privately owned and operated, subject to governmental regulation of rates and service. In the case of the communications satellite operation, our studies have convinced us that the national objectives outlined above can best be achieved in the framework of a privately owned corporation, properly chartered by the Congress. The attached bill authorizes the establishment of such a corporation, financed through the sale of stock to the public.

"But a further question presented was whether the ownership should be limited to American companies currently operating in the international communications field, or be open to the public at large. The only argument advanced for the narrowly based ownership which I found to have some merit was the contention that an investment in this corporation could in this way be treated as the acquisition of additional facilities, and thus as part of the existing rate base, of those participating companies already in the business, thereby permitting the rate of return to be spread over a very broad base and resulting in lower service fees. Otherwise, it was reasoned, the expected unprofitable early years of the new corporation could well compel unduly high charges for the satellite services to provide investors a reasonable return.

"While this is an important consideration, it must also be realized that such a system is by nature a government-created monopoly—and that we cannot in good conscience limit its ownership to a few existing companies and exclude automatically all other potential investors who have equal rights to own a part of this federally-developed enterprise. To meet all of these objectives, the following arrangement was devised and incorporated in the draft bill: The common stock of the corporation will be in two classes. Holders of Class A stock, open to the public, will have voting rights and will earn dividends. Class B stock, which may be purchased only by approved communication carriers, will not confer voting rights nor will it pay dividends; the amount of investment, however, will be included in the individual companies' rate base for other international communications services.

"No investor would be permitted to own more than 15 per cent of the total amount (1 billion dollars) of the authorized Class A stock nor more than 25 per cent of the Class A stock outstanding at any particular time, thereby preventing domination of the corporation by a single stockholder. There is, however, no limitation on the amount of Class B stock or securities which may be owned by any one investor. Further protection against undue domination by any one stockholder is the limitation that any individual stockholder or trustee may vote for only two out of the nine to thirteen members of the corporation's board of directors.

"Purposes and powers of the new corporation would include: Furnishing for hire channels of communication to authorized users, including the United States Government; acquiring and owning satellites, ground terminals, and other facilities necessary for the system's operation, management, and interconnection with terrestrial communications systems; conducting or contracting for research and development; and purchasing satellite launching and related services from the U. S. Government.

"Adequate authority and responsibility is reserved for the President to ensure that the policies and objectives of the Act are carried out effectively. The draft legislation does not interfere with or limit the existing prerogatives of any government agency; but because of the existing overlapping of responsibilities and interests, it seeks to define and identify these responsibilities and expressly assign them in an orderly fashion.

"In coordinating the efforts of the various departments and agencies, I expect to rely heavily on the Director of Telecommunications Management, a new post to be established in the Office of Emergency Planning to assist in planning for and managing the telecommunications resources of the United States. In addition, I will look to the National Aeronautics and Space Council for assistance in coordinating this new communications satellite program with other aspects of our space efforts.

"It is my firm conviction that the enactment of this legislation and the actual operation of such a system would provide a dramatic demonstration of our leadership in this area of space activity, our intention to share the benefits of space for peaceful use, and the ability of this nation and its economic and political system to keep pace with a changing and complex world. The direct benefits—economic, educational, and political—of this improved world-wide communication will be invaluable. For these reasons I urge the Congress to give prompt and favorable attention to the enclosed bill."

Is the PBX On the Way Out?

By GILBERT R. BRACKETT

NOW THAT automation is fast becoming country-wide will it put a copper curtain between the telephone company and its patrons? A recent customer attitude survey, taken in the midwest, disclosed the following:

"There was no improvement over last year in customer feeling that our people and our business are imbued with a true 'spirit of service', even though they credit us for increased politeness. Customers do not feel that the quality of our technical services is improving.

"Results at individual exchanges vary, but the 1961 survey indicated that this year more customers than last year feel we are becoming more polite, although some write-in comments express the feeling that our politeness tends to be mechanical or indifferent."

PBX's Affect Company

It seems to me that no matter how mechanical a business customer's communication facilities may become, even to the point of having no switchboard or attendant, the telephone company will be blamed for the kind of service that emanates from or terminates at a PBX customer's equipment. Stroll about town with Mr. Average Citizen, point to a pole standing rigid in a street parking or an alley and question him about the ownership of the pole. "It's a telephone pole," he will invariably reply, even though the "stick" may hold a night light. This is true of telephone service. Whether it is given by a secretary, a PBX attendant, or one of our own operators, the telephone company is blamed when anything goes wrong with a call.

Centrex service is in the picture of the future for large cities. Such installations may take over the service for all firms operating in a big building, perhaps in an entire city block, or they may give service to one big manufacturing plant. However, such installations will not be plentiful. Many large firms will accept in-dialing and access to the DDD network, but some of the smaller customers cannot afford such refinements and so there will still be a need for PBX switchboards and attendants to man them.

Still Need for Assistance

Even on a Centrex installation there will be a need to provide assistance and some screening on certain classes of calls. Some firms will continue to demand the control over toll calls, such as attendants now afford. Extension user training will become a more demanding responsibility and call for intelligent handling by the attendants at larger PBX installations.

Even though some folks seem to think that personal service by a PBX operator is now a thing of the past, I can find no one that agrees with them. With the introduction of newer, more flexible, more compact equipment, the duties of the PBX attendant may change, but I am of the opinion that her position in the business organization will not cease to exist, altogether. There is little doubt but that, with more modern equipment, she may be able to perform creditably as an attendant, while working as a receptionist or typist as well.

As long as an attendant watches over the communication facilities of a customer, whether operating a Centrex, a key system, a small switchboard or any of the other devices that centralize a business firm's telephone requirements, she will be expected to give a personalized service and it will call for close supervision by the telephone company to see that she does just that.

Mr. Customer has grown to rely upon the quiet, undisturbed, patient attendant whose soft voice eases his worries and gives him assurance. Her voice, her manner, her courteous deportment and her sincere efforts to be of help have captured Mr. Customer's friendship and loyalty. It will be hard to find a machine with the qualifications of the "eager to serve spirit" of an attendant.

As this paper is being written there is an awareness of two interesting facts—(1) there are few qualified applicants to fill the many hundreds of employers' requests for capable PBX attendants. In one city, out of 778 applicants interviewed and referred to employers by communication service advisers, only 310 merited placement. I am inclined to think the employment situation is little different in other large cities. Good PBX attendants are still very much in demand; the "stock pile" is much too small.

The PBX employer no longer wants "any sort of a girl" to superintend his switchboard. He no longer feels that an attendant's work is unimportant, that it is an undertaking any girl can be trained to handle after a few practice hours at the board. It seems that, through training efforts and by building up the attendant's job in the mind of the PBX management, we have created a demand for people of exceptional qualities that has not kept pace with the customer demand.

Future Need for Telephonist

The telephone industry continues to expand each day and the duties of the communications service adviser and the PBX attendant, will most certainly change. But regardless of DDD, the Centrex system, combining many PBX's into one, or in-dialing, I do not feel that anyone can predict a future time when these two service advocates will be eliminated.

Dial and other automatic equipment have replaced central office operators in great numbers. Cable and microwave have replaced many thousand miles of open-wire construction. Automatic billing is decreasing the need for manually operated billing machines. But you can bet your first pension check, that as long as there are executives who refuse to answer their own calls, who have secretaries who ask, "Who's calling?", and who insist that the other party be on the line first, there will be a need for a "Telephonist" regardless of whether she sits before a PBX turret or a desk!

More Important With DDD

Many companies have found that, with DDD, the communications service adviser is more essential than ever before and it is a common belief among traffic executives that her job will become more and more important in the years ahead, with every refinement in telephone service. Some traffic managers believe in this so strongly that they are appointing communications service coordinators to their staffs. These men will be responsible for the formulation of policy, development of practices, technical training programs and training aids, distribution of methods of operation, and coordination of service adviser activities with other departments.

It is probably foolish to reach conclusions without some research, but it seems to be the general impression that large office buildings, or even city blocks for that mattter, where a common central control system, such as Centrex, would be practical, are very limited in most Independent territory. Possibly, there are some "Industrial Parks" where the Centrex might work out very satisfactorily. However, the general trend today among a great many of our PBX customers is to settle down in locations remote from town and with no close neighbors.

"Quality Control" Plan

Telephone people are very much aware that a customer contact can make either a friend or an enemy. They realize that one of the better ways we now have to meet customers personally and show an interest in their service is when a telephone is installed or repaired. Surveys have indicated that it is often through such contacts that a customer's attitude toward telephone people, the company, and its service and rates is formed.

Realizing the importance of such personal contacts, one Bell company is experimenting with a new "quality control" plan for measuring the kind of service being given on installation and repair visits. The plan will also be used to get a broad picture of how customers view their telephone service.

Check Company Records

Supervisors will visit some customer locations, both residence and business, where service was recently installed or repaired. Purpose of the plan is considerably broader than a check of the technical quality of the job which has been standard for a number of years. In addition, supervisors making the visits will interview each customer to discover if there is anything from his point of view which is not satisfactory about any phase of his service or contacts with the company. It is believed that such an interview will show where changes in company practices and policies may be desirous in order to give customers the kind of service they want.

Of course, another purpose of the plan will be to check the accuracy of company records and reports against actual observed services and equipment and bring them up to date. Such a plan affords an opportunity to weed out unsafe practices and conditions and determine the effectiveness of sales efforts.

Since the personal interview can be given to only a small number of customers, the quality control plan will include questionnaires. They will be mailed out to a much larger group of customers and will be so constructed that they will bring to light the same kind of information brought out by the personal customer contacts.

It has been said that the PBX attendant has little effect on the telephone company's public relations. PBX's cannot be responsible for approximately 65 per cent of the local traffic in a city and not affect the reputation of the telephone company operating in that city. If the attendants who direct this traffic approve of the telephone company's service adviser and plant and commercial contact people, they approve of the telephone company, and appreciate the fact that it is made up of people like themselves and not entirely of robots or other mechanical monsters. They so inform their business associates and personal friends. If the PBX attendants have no effect on the telephone company's public relations then we have been spending millions of dollars a year on a will-o'-the-wisp venture in Telezonia!

Not a Minority Group

It is true that, in many cases, keysets, director sets, and telephone answering services already have eliminated the need for small PBX's, but even these types of installations are somewhat akin to the PBX and should not be ignored in any service guidance program.

Because I have been working with and writing about PBX people for a good many years, and expressing my faith in them as important people, as our best customers, as deserving of our best efforts to assist them in every way possible, I have been accused of supporting a minority group. If

Brackett's Article Used As Training Aid

Editor, TELEPHONY

I have read and re-read the fine article by G. R. Brackett, "PBX's Most Important Person—The Girl at the Board." (Oct. 30, 1954).

I have found it to be most enlightening and very helpful in training new PBX operators. I give each new girl a copy of the article to read before she ever starts to work on the switchboard, and then I find my job of teaching much easier. After reading this article the new employe knows what is expected of a good operator.

We like to apply the "personal touch" on all calls coming into our switchboard, so that each caller feels that our operator takes a personal interest in his particular call.

Thank you for a well-written article which covers so well, everything that a good operator should be.

Theresa K. Ganss
PBX Operator
The Travelers Insurance Co.
Peoria, Ill. Branch Office.

this group of customers, who are custodian of a major portion of our local traffic, and a goodly share of our toll business, and who represent industrial concerns that sometimes employ as many individuals as there are telephone stations in the community in which they operate, constitute a minority, then I am guilty of promoting the few.

Appoint Account Managers

All over the country, Bell and Independent companies are appointing account managers who are placed in charge of single large PBX installations. I am told that General Motors in Detroit, is assigned an account manager with more than 60 assistants under his supervision, who do nothing but care for the service of this huge organization. This does not indicate that the big operating companies consider the PBX customer a minority group. The telephone companies that have a large fill of PBX installations are sincere in their desire to be of assistance to this class of customer. They are going all out to give them the supervision they ask for and need. They do not look upon them as a minority group.

It is becoming apparent that both the Independents and the Bell are out to give PBX customers the kind of attention they should have been receiving all along. Of course, the kind of supervision each company gives to these important customers varies all over the map. Some go all out to be of help, while others appear reluctant to follow the leaders.

Advisers' Job Expanded

Many companies have expanded the communications service adviser's job to include training on key systems, Electronic Secretaries, and many other compact devices that are used by our customers today. The service adviser has always been sure that her instruction activities have included the extension user when needed. With DDD, in-dialing and other operating refinements, she will direct more and more of her activities toward the extension user. He will take over the multitudinous duties now performed by the attendant and, therefore, will require a proportionate increase in his demand for the attention of the service adviser.

In-dialing promotes the extension user to the important position of guardian of the telephone entrance to his firm's place of business. The way he handles each caller will play a deciding role in his company's future relations with its customers. The contact can be pleasant and profitable, or it can become unpleasant and destroy good public relations and company friendships.

Same is True for DDD

The same holds true of DDD, except for one addition. In handling toll calls for his company, the extension user must watch his P's and Q's. He cannot afford to be abrupt, nor can he afford to be free and easy with the time he devotes to a conversation over a toll line. Extra salutations, good-byes, weather gossip, and unimportant loquacity can add up to a considerable amount of toll costs in a very short while. He must be business-like and still hold the respect and regard of his caller.

In-dialing will replace attendants. DDD will, too, if the customer can be sold on the idea of letting his extension user place his own long distance calls. If he continues with the old-fashioned, expensive practice of having his attendant tabulate the firm's every toll call, then he will be unable to take advantage of the savings of time and money that comes from DDD and station-to-station service.

Adviser Can Help

Here is where the communications service adviser steps in. Through her influence, knowledge and sincerity, she can sell her PBX people on the savings DDD will bring them if properly used. When "extension identification" comes about, as it will with the installations of some types of automatic billing, the service adviser will have a good selling point, in convincing the management the extension user should place his own calls because all toll calls can be charged directly to the extension that originates them. Business institutions have for years asked for such service.

I cannot find the courage to make a guess as to what the next 10 years will bring forth in the way of communication developments. I shall leave such predictions to others. But I feel no trepidation in making one prophecy for I do not fear contradiction—and that is, the future will demand a greater number of people on the telephone company's payroll who are dedicated to the advancement of telephony.

Meeting Competition

Privately-owned microwave systems, public address systems, intercommunication systems, and many other types of competitive equipment are encroaching upon our business and undermining our revenues. Such problems must be met with resolution and determination if we are to maintain our present level of prosperity and progress. We are going to find it necessary to be there "firstus with the mostus, and bestus!"

Our objective and responsibility is to give good telephone service. It is our duty to make sure that every one of our customers receives the help and training he needs. We cannot afford to be negligent. Nevertheless, subscribers to our services must realize the importance of the telephone to their scheme of living. Each customer is entitled to courtesy, understanding and guidance, but at the same time he must be made to realize that he, too, has a responsibility to learn the strong points, as well as the limitations, of telephone service.

I hope that I have left you with the thought that PBX attendants still give personalized service, that PBX customers are very important people, and that they have a bearing on a telephone company's public relations, and that they are in no way a minority group.

I have discussed the PBX situation with communications service advisers and telephone company management. They all agree that the PBX attendant will be with us for a long forseeable future.

Profit Base

"One of the phony ideas getting wide circulation in the U.S.A. these days is this: If you believe in the profit system you are not a humanitarian.

"Humanitarianism is being defined as opposed to the profit system—which is pictured as greedy, selfish and evil.

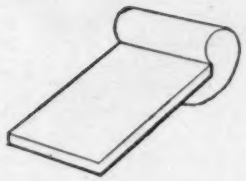
"But there are just two facts we ought to concentrate upon:

"(1) Every practical humanitarian project in the United States exists and thrives solely because of the profit system.

"(2) Every so-called non-profit enterprise in the United States operates on gifts and funds supplied by those who do make profits.

"This winter is rugged enough, weather and otherwise, without exposing ourselves to another 'snow job.'"—Industrial Press Service, National Association of Manufacturers.

The Plant Man's NOTEBOOK



By RAY BLAIN, Technical Editorial Director

WE HAVE HEARD of beetles bugging telephone cable, and it is not unusual for squirrels occasionally to sharpen their molars on lead sheath. However, a new type of cable trouble is now reported from a mountain town in southern California—the first case of parrot trouble.

It happened recently when "Old Red", a crimson-hued fugitive from the tropics, who roams the town at will, had a hankering to break into the telephone business. He accomplished this by chomping the lead sheath of a 26-pair cable.

The pesky parrot still roams the town, but telephone men hope that he has satisfied his appetite for lead cable. These Californians are accustomed to unusual trouble though, because a few years ago a bear chewed through another cable.

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The Illinois Bell Telephone Co. is placing green plastic rings on door handles of company vehicles to remind drivers to walk around their cars, prior to entering them, to check for children, dogs, cats, toys, etc.

This reminder has proved effective, as one driver found a small boy under the rear bumper attempting to retrieve a toy, and another found two three-year-olds playing under his truck. This is undoubtedly a good safety practice, which should be adopted.

•

A new type of automobile rear turn and stop signal light will be brighter in daytime hours but will be lower in brightness at night. It is claimed that this new "dual intensity" system will increase the daylight brightness of the signals two to four times.

For night use, the brightness will be lowered automatically when the headlights are turned on, to reduce the glare for drivers of the cars behind.

It is understood that the Automotive Manufacturers Association intends to adopt this system, but has not as yet set a specific date. The new system will require extensive changes in automotive electrical wiring. Westinghouse has designed a two-filament light bulb and a fixture that prevents the use of the wrong-type bulb in a dual-intensity installation.

This new safety feature should receive country-wide approval.

•

The American Telephone & Telegraph Co.'s new cable ship "Long Lines" was launched in Hamburg last September. This, the largest cable-laying ship in the world, was built to help expand the network of submarine cables which provide much of the overseas communication service. This ship has gear designed to lay the new two-directional armorless telephone cable using rigid repeaters. She also is equipped to repair both this type and the armored cable with flexible repeaters used in previous deep sea cables.

The efficiency of the C.S. Long Lines as a cable-laying vessel is increased by the installation of a third propeller in a tunnel in the bow. This arrangement makes possible exceptional maneuverability at low speeds. The bow propeller is reversible, thus making it possible to force a jet of water out either side which simplifies the execution of the many intricate maneuvers peculiar to cable laying.

The first assignment of the C.S. Long Lines, as currently planned, will be the laying of a telephone cable in the Caribbean area and working on the third transatlantic link. Next, she is scheduled to go to the Pacific for work on the submarine cable to Japan. In any event, she will be a working ship, busy expanding and maintaining the vast Long Lines network of submarine cables connecting various parts of the world.

•

Accidents, according to the National Safety Council, take an annual toll of 90,000 human lives, and disable 9 million in the United States. Most of this tragic waste of life and limb can be prevented, according to the Safety Council studies, and prevention can begin in the home where many of the accidents occur. The principal victims of home accidents are people under 5 and over 65.

During the past ten years, there has been a 7 per cent reduction in the number of disabling on-the-job injuries per 100,000 workers.

For the past seven years, work deaths have remained constant in spite of a 9 per cent increase in the nation's total work force and the introduction of many new technologies and materials.

It is reported that most large companies have worked with the National Safety Council on safety programs, but similar programs must be instituted in the many small companies that do not now have them, if the accident rate is to be reduced.

•

A new feature called "Zone Answering", which provides partial in-dialing service and reduces the operator's work, has been developed specifically for use on department stores' PBX systems. This equipment permits customers to dial direct to any one of four numbers which are listed in the city telephone directory. These may be listed as "telephone sales", "service & repair", "credit", or "executive" departments.

On calls to "telephone sales", a distributor assigns each call to an idle attendant. Calls to the other departments terminate on key-type telephones that permit an attendant in the proper department to answer calls and transfer them as necessary. (For example, in the credit department, accounts are probably handled in alphabetical groups.)

Obviously, this arrangement could be extended to a larger number of departments and provide direct in-dialing to each of them.

"Zone Answering" reduces the work of manual operation on PBX systems and at the same time, reduces the cost of service to the subscriber and increases the revenue of the operating telephone company.

•

General Telephone Co. of Indiana contends that one of the most important phases of the traffic department's operations is service observing. Its pri-

mary purpose is to secure basic facts on individual calls, which in turn may be summarized, analyzed, and appraised to determine the quality and character of the service furnished the company's subscribers.

Just as manufacturers must test the grade of their products in their laboratories, the telephone company must make use of some method of testing its product, the telephone call, other than by subscriber comments. Service observers perform these tests.

Their "laboratories" are equipped with monitoring trunks, supervisory signals, timing devices and "solitude". Since in many cases, the handling of the call by the operator, and the functioning of the equipment, is carefully observed from its beginning to end, undisturbed observing is most essential.

Service observers of General Telephone of Indiana are women employes who have been carefully selected from the operating forces. These observers are adequately trained, made thoroughly familiar with 11 operating practices, and fully acquainted with the observing and central office equipment. They test local subscriber-dialed calls for equipment difficulties, as well as customer dialing errors. In DDD offices, the observations include this equipment. Information compiled from these observations is referred, when necessary, to management representatives in either the plant or traffic department.

Observations are also made on calls routed to, and handled by, information and intercepting operators to test the use of good judgment, thoughtfulness and initiative, as well as accuracy of the operators, and the speed and courtesy they employ.

Observations are made from the subscriber's viewpoint, and are evaluated on the basis of unsatisfactory, satisfactory, or very pleasing service. This information is then summarized in an office service performance index which, with certain summary information, is forwarded to the proper supervisor for training and other corrective action.

It is claimed that the most important part of the program, however, is the follow through, or the initiation of whatever action is necessary. The over-all result is meeting the objective —improving customer service.

"Cross Talk"

Many get the short end of the bargain when they trade opportunity for security.

•

It is claimed that no amount of pay ever made a good soldier.

Plant Man's QUIZ

By RAY BLAIN, Technical Editorial Director

Q. Is it considered possible and/or desirable to transfer an aerial lead-covered cable to direct burial so that the pole line can be removed?

A. This practice is possible, and it has been used to some extent by various operating companies for the past several years. It is believed necessary, however, to wrap the lead sheath with a covering of PVC tape to provide an outer protection against electrolysis and corrosion prior to burial. Dents, abrasions and cracks in the lead sheath should also be repaired prior to applying the tape covering. A special wrapping machine can be obtained for use in applying the vinyl tape.

Under ideal conditions, about 2,400 to 2,800 feet of cable can be taped in a normal working day.

•

Q. What is the action of a vibration damper on an open wire line, and why is its use necessary?

A. The spiral vibration damper provides a simple, inexpensive method of reducing or eliminating wind-induced resonant vibration in small solid wires as used on aerial line construction.

Ordinarily, for conductors which are properly installed with low normal tensions, vibration is not a serious problem. However, in some areas where low temperatures or continuous winds are prevalent, or where high normal tensions are knowingly used to correct clearance or separation problems, a fairly large amplitude of vibration may develop. To reduce or eliminate these difficulties, the spiral vibration damper was developed.

The spiral damper consists of an open helix of insulated copper-steel wire, about 50 inches long, which can be quickly and easily installed over a solid wire conductor.

•

Q. Will you please explain the "buffer" type of protection?

A. Buffer protection consists of carbon discharge blocks connected between open wire circuits and ground at a location about 1500 feet from the point where they connect to cable.

The use of this type of protection is generally recommended when it is not practicable to obtain a low-resistance ground at the cable junction pole. This "buffer" protection tends to divert a portion of a current surge to ground before it reaches the cable. However, this type of protection is not effective unless it is connected to a ground of not over 25 ohms.

•

Q. Please explain the term "grading" as used in a dial switching system.

A. Grading is the method of connecting level multiples together so that a group of selectors is given access to individual trunks on the early choices, but on the later choices shares access to trunks with other groups.

This arrangement increases the efficiency of later choices by progressively combining on subsequent choices the traffic offered to several groups, with the last common truck carrying the residual traffic of all groups. In addition, the selector-groups together have access to more succeeding switches than there are bank-contact positions on a level of any one selector.

•

Q. Will it be possible to obtain a small storage battery that is sealed and that does not require the addition of water to replace evaporation?

A. This type of battery is now available in the sealed nickel-cadmium cell. For many years, this type of battery has been used in Europe in its original form, as an unsealed battery.

Recent technological advances have made possible the extension of the nickel-cadmium system to small, hermetically sealed batteries—rechargeable batteries that are free of the usual routine maintenance such as the addition of water. Thus, the economic advantages of rechargeability have been brought to small batteries.

THE TRAFFIC PAGE

By WINNIE BURNETT

THE CONVERSATIONAL repertoire of the average person contains many sayings, some catchy, some just trite. Most of them have become boring through repetition.

One of the often-repeated sayings, "Life is hard," should be answered by "In comparison with what?" Living in our modern society may be difficult, especially if we try to keep up with the Joneses. But in comparison to the alternative, I'll take life—as long as I can.

Modern living is marked by rapid changes and the modern worker has been touched by these rapid changes. He (or she) is better informed, better educated and lives longer. And generally, he requires a higher caliber of leadership. This presents a problem in management, making life's problems a little harder, but not insurmountable.

THE BIG HEADACHE of practically all employers is *getting and keeping* good employes. My sympathy and understanding especially go out to the chief operators in their personnel difficulties.

In days gone by, when an additional operator was needed, the chief operator hired one. When a supervisor was needed, a logical person was promoted. When work or attitude was consistently unsatisfactory, the offender was fired. So hiring, firing or promoting was a relatively simple matter. These days, however, a certain skill in handling such matters is not only required, it is essential.

One of the most important skills in the "know-how" is that of *selecting the people* for employment. This skill involves the bringing together of human abilities and job requirements. Careful selection results in having the individual fitting the job—not the job fitting the individual. There are many tools—job analysis, observation interviews, evaluation, tests, etc.—to be used in selecting people for employment and/or promotion. All these tools should be used, for the selection of people to *run the business* affects service and the company's profits.

TURNOVER is very high in the Traffic Department, especially turnover due to marriage, a biting factor. You can't fight romance. As the purser said to the captain of the cruise ship, "Just about the same kind of passengers as usual, sir. Girls looking for husbands and husbands looking for girls."

After you hire 'em you have to train 'em. Most offices have training programs and these should be vigorously pursued. Of course, we interview, select and train with one main purpose in mind—to render good service and to realize fair returns. All this selection, training and promoting, to be successful, is the result of good planning. We must know what we need before that need becomes crucial.

In the operating room, the ebb and flow of traffic demands a planned force adjustment. The operator's work cannot be postponed—no part of her work can be filed away for tomorrow, since calls must be handled in a matter of seconds.

JUST AS A person must fit the job, the operators' hours must fit the ebb and flow of calls. This is force adjustment, providing the right number of people to handle the calls hourly, daily, weekly and monthly. For the light hours and the heavy hours, weekdays and Sundays and holidays, the proper number of operators must be scheduled. Past records and peg counts are used in this planning, and I often suspect a crystal ball is consulted or gazed upon.

The schedules resulting from these studies are, of course, based upon each member of the operating team carrying an average load. The only way this can be achieved is to have, and to faithfully follow, a uniform instructive training program. Such a program must be kept current, and should utilize all the newer time-saving practices now authorized.

No one denies the fact that chief operators have had their hands full. The frequent revisions and revamping of the operating practices require a continuous instructive program. It is imperative that we keep up with these new procedures, because new approaches to traffic measurements have been added. If out-dated procedures are followed, usually the planned force adjustment schedules may as well be thrown out the window, for these schedules are drawn from studies and the measurements are based on standard operating practices.

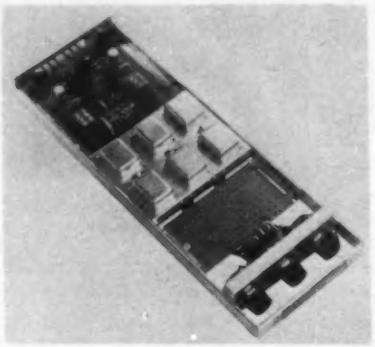
THE CHIEF OPERATOR also must keep abreast of and informed on various types of new services offered, for whether or not such services are available from all companies, our customers usually know of them. The industry's customer education program has really taken hold. Most of the heavy toll users are familiar with regular traffic practices, and many will call the operator's hand on improper procedures.

What with new services such as WATS, WADS, MCC, MTWX, ETV, DAL and TELPAK, you may truly feel that "life is hard." I hope you *don't* feel that way. I hope you wel-

(Continued on page 54)

News on New Products

VOICE FREQUENCY REPEATER—A new voice frequency hybrid telephone repeater—Type 251A—has been introduced by Budelman Electronics Corp., subsidiary of General Railway Signal Co.

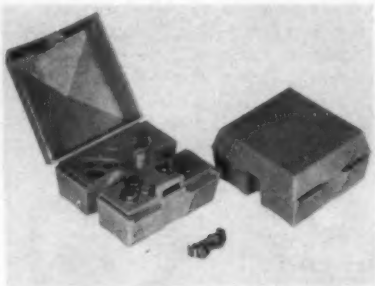


The Type 251A is designed for use on telephone subscriber and trunk circuits. According to the company, it can be installed quickly and easily and adjusted to a given circuit by using only a lineman's test handset and may be used without coils on either loaded or unloaded lines. Newly designed circuitry provides stable and uniform speech gain over any telephone line facility, in either terminal or intermediate applications, the company states.

The Type 251A is a complete assembly; takes up a minimum of rack space (four repeaters take 1¾ inches of space in a standard 19-inch relay rack); consumes a minimum of power, and provides up to 15 db gain in each direction at a low cost, the company states. Request NP1822.

•

TELEPHONE CONNECTING BLOCKS—A new design in telephone connecting blocks has been announced by Automatic Electric Co. The Types 13 and 14 blocks (three and four-terminal, respectively) have both cover and base molded in one piece, reducing the number of parts to be handled. Molded of flexible polypropylene; the block has a thin web, hinging the cover and terminal block, that, AE says, actually grows stronger with flexure.



The blue-beige block, which replaces the more common Bakelite block, has a secret latch that cannot readily be opened by telephone company customers, the manufacturer reports. To open, the pyramid point on the cover is pushed in, causing the flanges to spread and unlock the secret latch.

Types 13 and 14 telephone connecting blocks are said to be flexible enough so that terminals can be installed in the field. Thus, according to the company, only the Type 13 block and some loose terminals need be stocked. The Type 14 block, however, is also available.

The center-post of this block is reported to secure the telephone cord so that the block may be easily closed. Opening the block for maintenance requires no tools.

Initially, the new telephone connecting block is available only with AE's Starlite telephone. Delivery in quantity will follow in coming months. Request NP1823.

•

RESIDENCE AND SMALL BUSINESS TELEPHONE ANSWERING SET—A new telephone answering set, the Model SP-2, has been announced by Electronic Secretary Industries, Inc. The modern unit was designed, the company says, for use in residences and small businesses at a cost to the subscriber comparable to residence telephone rates.

The all-transistor unit answers the telephone in the subscriber's own voice and allows 15 seconds for the caller to leave his message. The telephone-answering message is magnetically recorded and can be changed at any time through a microphone offered as standard equipment. Up to 12 incoming calls are magnetically recorded and played back to the subscriber on his return. He may then erase the messages, and reset the machine.

The Electronic Secretary answering set allows the businessman or professional man to be "in" to his clients or prospects, while he is away from his office. It is also of service when

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Please have the manufacturer send me without obligation the literature indicated by the following numbers:

NP1822_____; NP1823_____; NP1823A_____; NP1824_____;

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NP1833_____; NP1834_____; NP1835_____.

Name .....

Company .....

Street .....

Town and State .....

2/17/62

clients know they can call nights, weekends, or holidays. Request NP 1823A.

•

MOISTURE ELIMINATOR—Magnolia Chemical Co. has announced the availability of a product called Saf-Gard. It can be used in spraying the interior of terminal boxes to eliminate the possibility of moisture shorting out connections. It is also said to be useful for spraying over the entire electric harness of motors in trucks and staff cars, thereby preventing damp connections in wet or cold weather and facilitating the starting of motors.

It is also reported to be helpful on any electric motors that are exposed to the weather, such as air conditioning units on the tops or sides of buildings.

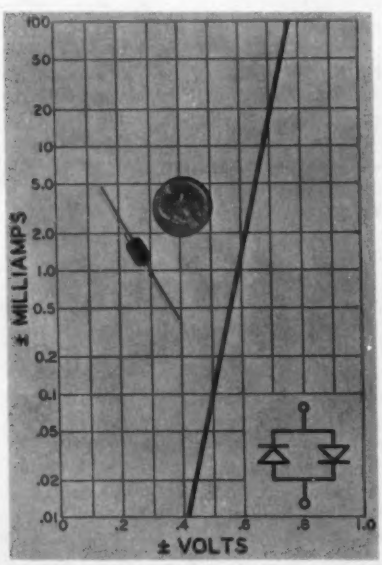
Another use is described as a follow up procedure on telephone booths after they have been cleaned: It seals the pores of the aluminum, thus reducing discolorations from smog and salty air. Request NP1824.

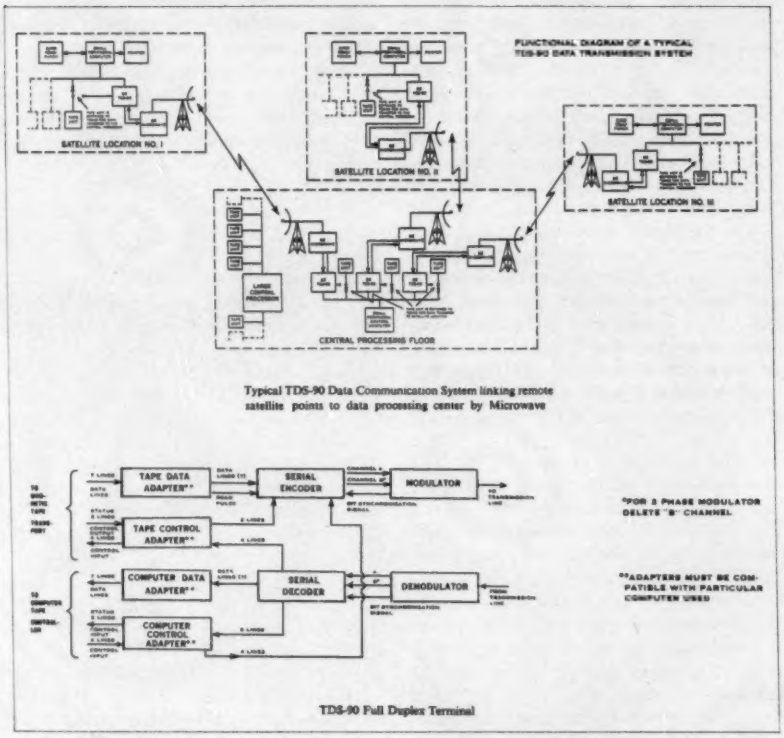
•

SILICON VARISTOR—Schauer Mfg. Mfg. Corp., a supplier of copper oxide varistors used in telephone service is now producing silicon varistors.

The Schauer SV1 varistor consists of matched silicon junctions connected in parallel and oppositely poled. This voltage variable resistance goes through four decades of current for a half-volt change in signal and is said to make possible its use as a single component to convert linear ac or dc information into logarithmic information.

The Schauer SV1 silicon varistor is showed as compared in size to a 25 cent piece, photographed on a background chart of its I *vs.* E characteristics over four decades.





Typical TDS-90 Data Communication System linking remote satellite points to data processing center by Microwave

TDS-90 Full Duplex Terminal

The unit is described as being encapsulated with an alkyd molding compound into one small package, 0.2 inches in diameter, 7/16 inches long, having axial leads of pure nickel, 0.025 inches diameter, 1 1/16 inches long.

Schauer says there are many uses for the SV1 varistor, including emitter and cathode bias, ac and dc fractional voltage regulation, zener diode replacement, and the conversion of linear ac and dc information into logarithmic information for meter, computer and measurement application. Request NP 1825.

•

DATA COMMUNICATIONS TERMINAL—General Electric Co. reports that it has designed a new transistorized data communications terminal, capable of transmitting up to 90,000 characters per second, but primarily engineered for standard tape speeds of 15,000 to 22,500.

Designated as the TDS-90, the new equipment is said to enable large, fast-operating computers in major computer centers to converse directly in computer language with smaller devices in satellite locations.

TDS-90 speeds information from the smaller units located considerable distances away, smoothing the center's processing load. This, G-E states, slices downtime at the central location, permits maximum utilization of the larger computers, and makes the center more productive.

High-speed data handling is claimed to be facilitated by the elimination of time-consuming magnetic tape-to-card or paper tape conversions. Information on high-speed magnetic tape is transmitted directly from remote locations to central computer facilities for rapid processing, rather than being carried by messenger or mailed.

Wayne E. Evans, national manager of microwave sales for General Electric, said the new transistorized equipment is in production. Initial applications will employ microwave radio as the transmission relay media, making installation practical for short distances or for several hundred miles. TDS-90 also may be used with common carrier facilities.

Regardless of whether private microwave or leased common carrier transmission is used, TDS-90 is described as requiring a relatively narrow bandwidth. For example, 25,000 characters per second can be transmitted using 240 kc of bandwidth.

The TDS-90 equipment is designed with full duplex capability, allowing a simultaneous two-way flow of data from peripheral computers to the center and return. This, General Electric reports, has the effect of putting a high-capacity computer virtually in the same room with smaller units, eliminating the need for a business to install the larger, expensive equipment at each location.

In many cases savings can be real-

ized if data is transmitted from a small satellite computer or remote data source to a central processing center, G-E says. With a transmission link, the capabilities of the sophisticated computer are at the disposal of remote locations and can be used with high efficiency, without duplicating high-capacity data processing and computing functions.

The TDS-90 accepts asynchronous signals from a magnetic tape unit, prepares these signals for transmission and modulates them onto the base band of a microwave or coaxial cable transmission facility. The TDS-90 receive equipment demodulates the signals, recovers signal energy and shapes it into data suitable for transfer to the computer.

Control signals, necessary for the operation and control of a tape unit, are encoded and transmitted via the data channel. Synchronous phase modulation and coherent detection are said to give the user maximum reliable recovery of the transmitted signals and freedom from transmission errors.

Installation is simplified, according to G-E, because transistorized TDS-90 replaces a single tape unit at each computer termination. Data transmitted by the communication channel is fed directly through the TDS-90 equipment into central or remote computer facilities. Request NP1826.

•

TRANSISTORIZED HIGH-SPEED TELEGRAPH RELAY—A high speed transistorized telegraph relay, designed electronically and mechanically to replace the type WE 219 and WE 255-A mechanical polar relays used in Tele-

type machines and central office telegraph repeaters is announced by the Trepac Corp of America.

The Trepac Model 538-A plugs directly into the type 255-A socket in all existing equipment without any adaptors, brackets, modifications, or wiring changes of any kind, the company states.

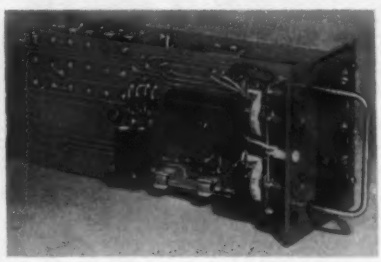
Advantages given for the Model 538-A relay are: Freedom from maintenance; and high-speed response, without distortion, to 200 bits per second (and to 400 b/s if a small percentage of distortion can be tolerated).

Trepac states its Model 538-A acts as an electronic repeater correcting large amounts of characteristic distortion, and is relatively insensitive to wide variations in signal line current, line leakage, and interference. A simple adjustment sets the electronic bias control, to compensate for wide variations in equipment and signal line conditions.

The switching capabilities are rated up to 500 volts dc and up to 2 amperes, with a maximum switched output of 100 watts. Request NP1827.

•

TRANSISTORIZED LOOP OPTION PANEL—Radio Frequency Laboratories are offering their Model HB-12720 Loop Option Panel as an accessory to the RFL 2056 frequency shift carrier equipment.



The loop option panel is designed to provide virtually all telegraph options normally encountered in carrier telegraph appications.

According to Henry H. Emker, vice president, communications of the company, the HB-12720 loop option panel is a voice carrier, which may be used on either telephone trunk or subscriber circuits. Twenty-two individual talking circuits are derived, Mr. Emker says, in the frequency band of 32 to 272 kc.

RFL states, it is capable of allowing telegraph loop circuits to operate at 60 or 20 milliamperes with a station battery of 48 to 160 volts.

On the front panel are mounted three switches—one for full-duplex or half-duplex operation, one for normal, or repeater operation, and a third switch for normal-reverse.

The company also says the front panel has three jacks for monitoring the receive leg current, the send leg current, and repeater patching. Request NP1828.

•

WRAP-AROUND EYE SHIELD—A new design in a lightweight eye shield has been announced by General Scientific Equipment Co. This shield provides a much larger area of protection than is usually offered by the conventional-type safety goggles. Further, a heavy opaque visor eliminates overhead glare while the plastic lens is said to be easily replaced, as and when required.

Spatula temples, plus the addition of an elastic-rubber headband, are claimed to provide maximum safety against slipping; 180 degrees of "down angle" vision is provided. The vision field is unrestricted. Request NP1829.

•

THERMAL WIRE STRIPPING PLIERS—Hunter Tools has introduced a lightweight, plier like-design, thermal wire stripper. This stripper is mounted on a standard plier frame and is long and slim for convenient use in confined spaces. The thermal stripping plier is claimed to sever and remove the insulation in one operation. It will strip teflon, vinyl, polyethylene, nylon, dacron, rayon, polyo-duct polyester, "Kel-F", or any other material adaptable to thermal stripping. It can be used on multi-stranded or solid wires from 40 to 13 awg, coaxial cables, shielded cables, wire cord, multi-conductor wires, and flat conduction between two layers of insulating material.

Stripping time is reported to be as fast as 1/2 second on small wires to 7 seconds on large wire. An additional feature built into the unit is a formica

stripping jaw on the side for removing large-diameter insulation or long pulls. To use, insert the wire in the jaws to pre-set stop, close the jaws, rotate the thermal wire stripper once or twice to completely sever the insulation, and pull off insulation. Nicks and cuts are said to be prevented. The unit will strip lengths from 1/8 inch up, and can strip mid-wire sections.

The tips themselves are nichrome wire with silver leads. The electrodes are of silver, which, Hunter states, eliminates oxidation and provides longer filament life. A control box with a rheostat wound 80 plus for any degree of heat at the tips makes it possible to strip any types of insulation from low-temperature vinyl to teflon.

Dimensions of the tool are as follows: 8 inch length, ½ inches wide at tip, 2½ inches wide at handle ⅞ inch thick, 36 inch cord, 8-oz. hand tool; total weight with control box: 3 pounds. Request NP1830.

•

EPOXY RESIN REMOVAL—The easy removal of hardened and soft epoxy resins used in the damming operations in telephone cable construction can now be accomplished, Penetone Co. states, with the use of its new product, Formula 676.

This product was designed to strip and dissolve epoxy resins quickly and efficiently in a dip-tank operation, and Formula 676 requires no special container nor safety measures, Penetone states. It is described as neutral in composition, non-flammable, non-corrosive and containing no acids or caustics.

Formula 676 is a free-flowing, low-viscosity liquid, minimizing waste because of what are termed its exceedingly fast-drying characteristics. Request NP1831.

•

EXTENSION DRILL—A new tool which enables installers to drill for service drops in joists, or masonry walls, up to 8 feet in height, from ground level, is now available from Price & Rutzebeck.

The company points out that advantages in telephone installation work of the product—the Danielson extension drill—range from increased worker safety by the elimination of much ladder climbing, to the saving of time.

These drill extensions are lightweight aluminum tubing mechanisms into which standard carbide bits are fitted. Both 24-inch and 48-inch-length models are offered.

Wood bits up to 5 inch hold diameters, and masonry bits up to 2 inch diameters for the 24-inch model; and 2 inch wood and 1 inch masonry bits, respectively, are recommended by the manufacturer for the longer model. Request NP1832.

•

DUCT JOINING TAPE—Protecto Wrap Co. has added to its line of pipe coverings, protective coatings, and corrosion preventive products, a new Duct Joining Tape, the company reports.

Protecto Wrap's duct joining tape is said to eliminate the need for water, cement, sand, mortar, mixing trough, and the usual equipment required for cement bandages.

Available in 6-inch widths and 70-foot rolls, the same roll of tape can be used on all common types of ducts, the company states. When applied quickly and easily to joints, it eliminates "internal buildup", such as concrete icicles, and provides a permanently bonded, strong, water-tight seal between sections.

With the use of this tape, each section of conduit rests evenly on the ditch bottom, and may be back-filled immediately, Protecto Wrap states.

A convenient feature of the duct joining tape is said by the company to be the ease with which it can be cut with scissors or a knife. Request NP 1833.

•

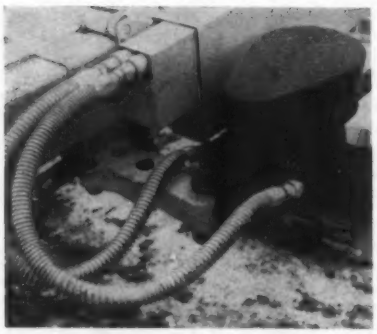
EARTH BORER—Designed for boom-type digging, the hydraulically driven Mark II earth borer is now in full production at Tel-E-Lect Products Inc.

The Mark II features two speeds—a high range for normal digging and spin off, and a low range for digging under severe conditions. Shifting is done by a control valve located on the operator's platform, eliminating the need to shift at the digger, the company points out.

In introducing the Mark II, R. L. Kennedy, vice president and general manager, pointed out that this Tel-E-Lect digger is available in three capacities, from 6000 to 8500 actual foot-pounds of torque, to meet the working conditions of various areas. Request NP1834.

•

DIGGER BRACKET—Tel-E-Lect Products Inc. also has announced that utilizing a unique combination of overlapping ears and a thick-wall steel tube, its "Rightway" digger bracket



automatically allows digging under the boom and storage along the side.

This digger bracket is standard equipment on all 500 and 300 series Commander derricks produced by Tel-E-Lect.

During a recent demonstration, Mr. Kennedy showed how the digger, when operating, swings under the boom with its forward ear interlocking with the vertical ear attached to the stinger. This allows an 8-foot, in-and-out digging range, he pointed out. The thick-wall tube gives the digger its universal swinging action.

The Tel-E-Lect "Rightway" digger bracket may be raised or lowered either hydraulically or mechancially according to user's option. In both cases the operation is automatically done from the operator's platform, Mr. Kennedy said; the ground crew needs only to disconnect the safety line. Request NP1835.

BDSA Estimates 2.84 Billion For '62 Telephone Construction

THE NUMBER OF telephones in service in the United States is expected to reach an all-time high of 81 million in 1962, and revenues should increase 3 to 4 per cent over those in 1961, the Business & Defense Services Administration of the U.S. Department of Commerce reported on Jan. 31. Construction expenditures will probably total about 2.84 billion dollars, approximately the same as the average for the past five years, BDSA states.

The telephone industry has shared in the general development of the national economy, according to BDSA, and has especially benefitted from the population increase, which averages 3 million per year. Other BDSA statistics on comunications equipment sales: TELEPHONY, Jan. 6, p. 28). The demand for new and expanded telephone services such as data processing and transmission, telemetering, direct distance dialing, secretarial, and Telex contribute to increased use of telephone facilities, as have also expanded services in metropolitan areas.

The number of telephones in service increased almost 27 million in the period 1953-61, according to government and industry sources:

	Number in service (in thousands)	*Per cent increase over previous year*	*Number per 100 of population*
1953	50,373	4.8	31.3
1954	52,806	4.6	32.2
1955	56,243	6.5	33.7
1956	60,190	7.0	35.4
1957	63,624	5.7	36.8
1958	66,645	4.7	37.9
1959	70,558	5.9	39.5
1960	74,058	5.0	40.8
1961 (est.)	77,200	4.2	42.0

In recent years, the telephone operating industry extended to suburban subscribers the privilege of making calls to nearby metropolitan districts without additional charge. As a result, the number of local calls increased. Toll calls have also increased, partly because of the establishment of direct distance dialing. According to government and industry sources, the number of average daily telephone conversations in the United States, excluding Hawaii and Alaska, in the period 1953-61, were as shown in Table 1.

In the past six years, capital expenditures have averaged 2.8 billion dollars, according to government and industry sources (in billions of dollars):

	Capital expenditures
1956	2.6
1957	2.9
1958	2.5
1959	2.6
1960	3.1
1961 (est.)	3.1

In December 1959, the net cumulative investment of the industry was 26.34 billion dollars; by December 1960, it was 28.6 billion dollars; and by the end of 1961 it probably reached 30.8 billion dollars. Operating revenues also increased—from 8.4 billion dollars in 1959 to 9 billion dollars in 1960, and to an estimated 9.1 billion dollars in 1961.

According to the Bureau of Labor Statistics (Bulletin No. 1312), industry employment (in thousands) and annual average weekly earnings and hours (in dollars) in recent years were as follows:

	September	*Annual averages*		
	1961	*1960*	*1959*	*1958*
All Employes	693.6	706.0	707.1	732.1
Nonsupervisory workers	566.9	581.9	585.4	610.2
Average weekly earnings	97.77	89.50	85.46	78.72
Average weekly hours	40.4	39.6	39.2	38 4

Set Western Rural Meeting; Renshaw, Hanks on Program

The Western Rural Telephone Association will hold its semi-annual meeting on Mar. 15 and 16 at the Imperial Hotel in Portland, Ore., Robert Ringman, secretary, has announced.

The board of directors will convene on Mar. 15 to elect officers, following a meeting on a proposed amendment to the by-laws limiting the number of consecutive terms that may be served by a director.

The program, for which Arnie Haynes and Merle Curry, both of Washington state, are co-chairmen, will include such topics as REA policies, various telephone operating problems, and other subjects of interest to REA telephone borrowers. Frank Renshaw, assistant REA administrator, and Clarence Hanks, western area telephone engineer, of the Washington, D.C. office of REA, will be present and participate in the program.

	Toll	**Exchange**		**Increase in total over previous year**
1953	**7,000**	**186,500**	**193,500**	**5,200**
1954	**7,200**	**193,400**	**200,600**	**7,100**
1955	**7,700**	**204,200**	**212,900**	**12,300**
1956	**8,400**	**217,700**	**226,100**	**13,200**
1957	**8,800**	**229,500**	**238,300**	**12,200**
1958	**9,000**	**241,800**	**250,800**	**12,500**
1959	**9,700**	**256,800**	**266,500**	**15,700**
1960	**10,300**	**271,800**	**282,100**	**15,600**
1961 (est.)	**10,700**	**281,600**	**302,300**	**20,200**

Figures given are in thousands.

Table 1

Courts and Commissions

Deny All of Rate Raise Sought by Conn. Company

The Connecticut Public Utilities Commission on Feb. 6 denied all of an $11,829,000 increase in rates requested by the Southern New England Telephone Co. (TELEPHONY, Oct. 14). It said that a return of 5.979 per cent on intrastate operations was "just and reasonable."

Taking into account an increase in the state gross earnings tax, if the higher rate asked had been in effect during 1961, the company would have had an operating income of $29,318,000, which the PUC said, would have given it a return of 7.39 per cent on its total plant year-end rate base. Looking only at intrastate operations, the commission said the company would have had an operating income of $23,902,000, representing a 7.37 per cent rate of return on the intrastate year-end rate base.

The commission decided that the company's rate of return should be based on a net original cost rate base, with no allowance made for working capital or for property held for future use. On this basis, the company's total plant rate base is $396,406,000 as computed by the commission, while its intrastate rate base is $324,160,000.

Also, the commission pointed out that the company could reduce its income tax by about ⅓ million dollars annually by adoption of a 40 per cent debt ratio in lieu of the current ratio of approximately 35 per cent.

In 1961, the company had a total operating income of $26,201,000, which, the commission said, gave it a 6.61 per cent return on its total plant rate base. Intrastate operating income was $20,790,000 giving it an intrastate return of 6.41 per cent.

If the increased earnings tax and other increased expenses had been in effect during 1961 under its present rates and charges, the company's operating income, in total, the commission said, would have been $24,342,000 giving it a 6.14 per cent rate of return on total plant. For intrastate operations, after adjusting for a 40 per cent debt ratio, operating income would have been $19,383,000 giving the company a 5.979 per cent return on its intrastate year-end rate base.

The commission said the highest return it had authorized for the Southern New England company in former proceedings was 6.01 per cent on intrastate plant and 6.03 per cent on total plant.

Delay NET&T Rate Refund In N. H. Pending Appeal

The New Hampshire Supreme Court has suspended the effective date for a $499,000 rate reduction ordered by the New Hampshire Public Utility Commission for the New England Telephone & Telegraph Co. (TELEPHONY, Feb. 10).

NET&T had asked the high court to hold off the effective date of the reduction until the company can appeal the commission's order to the court.

The commission has refused the company's request for a rehearing.

Kan. High Court Appointee To Study Appeal in SW Bell Case

The Kansas Supreme Court on Feb. 1 named Earl H. Hatcher as special commissioner to study the transcript in the Kansas Corporation Commission's appeal of a district court decision in a Southwestern Bell Telephone Co. rate case (TELEPHONY, Jan. 21, 1961).

The Shawnee County District Court had overruled a commission order which had granted the company 1.3 million dollars of a 5.8-million-dollar raise which had been requested. The district court restored almost the entire 5.8 million sought. The commission then appealed the district court's findings.

Involved is a ruling by the district court which held that utilities can base their earnings on a reproduction cost of plant.

The commission had ordered use of original cost, less depreciation.

Southwestern Bell has been collecting the higher rates under bond since January 1960.

Approve Employe Stock Option Plan in North Carolina

A stock option plan for employes of the Carolina Telephone & Telegraph Co., Tarboro, N. C., was approved on Feb. 5 by the North Carolina Utilities Commission (TELEPHONY, Jan. 27).

Under the plan, employes will be able to buy stock in the company at about 80 per cent of its market cost. The stock now is selling for $54 a share.

Employes can buy one share for each $500 in annual wages they earn, up to a limit of 60 shares, and the company will be allowed to sell as many as 20,000 shares to its employes.

Commissioner Tom Eller dissented from the majority decision, which he termed "inconsistent" and "untimely," and cited an order issued by the commission on Jan. 12 permitting CT&T to sell 195,000 shares to its stockholders at par value of $20 per share. In this order, it was stated that the company in the future should finance its operations through debt, rather than equity capital. He said the latest decision "is contrary to the majority's latest directive to the company." Eller also dissented from the Jan. 12 order.

The new order of the majority also took notice of the earlier decision, but contended the new plan is "not for the purpose of raising money, and does not constitute future financing referred to" in the prior order.

Arkansas Co-op Asks Raise To Offset Toll Loss

The Southwest Arkansas Telephone Cooperative, Texarkana, has asked the Arkansas Public Service Commission for permission to raise rates to offset loss of toll revenue.

The cooperative plans to provide toll-free service between its Fouke and Trigg exchanges and General Telephone Co. of the Southwest's Texarkana exchange.

With additional facilities to be provided for with the aid of a $468,000 Rural Electrification Administration loan, the Southwest Arkansas cooperative plans to add 820 more subscribers.

Approve EAS Rates for Two Minnesota Independents

On Jan. 29, the Minnesota Railroad & Warehouse Commission granted authority to the St. James Telephone Co. and to the North Star Telephone Co., Inc., of Mountain Lake for EAS between the St. James exchange and the Odin-Ormsby exchange of North Star, and approved a surcharge to cover costs of providing this service.

The St. James company said a sur-

vey of its business and residential subscribers indicated that St. James businessmen would benefit from such toll-free service, and would be willing to pay a $1.00 surcharge for the EAS between St. James and Odin-Ormsby. Residence subscribers, the petition said, "had little community of interest".

St. James serves approximately 2,400 subscribers, of whom 256 are business subscribers. The annual cost to the company for providing business subscribers with this EAS is approximately $3,167, and revenues at the rate of $1.00 per month will amount to $3,072.

Present rates for business service at St. James, and EAS are as follows:

	Present	*EAS*
One-party	$7.50	$8.50
Two-party	6.75	7.75

In the case of the North Star Telephone Co., whose Odin-Ormsby exchange serves 265 subscribers, the annual cost to the company of providing EAS service with the St. James exchange is $2,044. To defray these costs, the North Star company proposed to charge the business subscribers a $2.00 net monthly surcharge, and the residence and rural subscribers a surcharge of 50 cents. Annual revenues from this EAS will be $2,046.

The commission approved EAS rates for service between North Star's Odin-Ormsby exchange and the St. James Telephone Co. exchange. Old rates and EAS are as follows:

	Old Dial	*New EAS*
Business		
One-party	$7.00	$9.00
Two-party	6.00	8.00
Rural	4.50	5.00
Residence		
One-party	4.50	5.00
Two-party	3.75	4.25
Rural	4.00	4.50

Tenn. City Says Telephone Tax Shouldn't Be Billed to Users

The Memphis (Tenn.) City Commission has given initial approval to a franchise ordinance, which, it says, continues the present levying of a 5 per cent tax on Southern Bell Telephone & Telegraph Co.'s gross receipts in the city. The city commission alleges that although the telephone company's franchise expires in June 1962, the recently passed ordinance does not represent a new franchise, but merely the continuation of the prior franchise and tax.

A new Tennessee law passed in 1961 requires that all new local franchise taxes be passed on, where possible, to telephone users.

The city contends that the franchise, which is to go into effect in June replacing a similar agreement dating back to 1944, does not levy a new tax. Southern Bell's attorneys state that the franchise will be a new one, because the old one expires in June.

The situation is regarded as likely to develop into the first court test of the new state law.

The new ordinance grants Southern Bell an 18-year franchise. The 5 per cent tax, provided for under both old and new ordinances, last year produced about $1,215,000 for the city.

Continental Buys 2 in W. Va.

Continental Telephone Co. of St. Louis, Mo. recently announced that it has acquired two West Virginia companies—United Utilities of West Virginia and Duncan Telephone Co., both of which are headquartered at Davis. Continental said it now has 25 operating companies in 14 states serving more than 77,000 telephones.

REA Authorizes Three Loans

The Rural Electrification Administration has approved the following three loans.

Cap Rock Telephone Co., Spur, Tex.; $510,000; Jan. 19.

Proceeds will help to furnish initial service to 333 subscribers and to improve service for 36 subscribers. The loan also will aid the borrower to enlarge its headquarters facilities and to complete the system authorized with the aid of prior REA loans.

The Cap Rock Company plans to acquire from the General Telephone Co. of the Southwest 14 miles of line in the Guthrie community, three miles in the Afton area, and 25 miles in the Flomont region. The 36 subscribers who will receive improved service now receive common battery and magneto service over the acquired lines. New dial central offices will be constructed at Flomont and at Verbena. The borrower plans to serve the Guthrie community from its existing Hackmont central office.

REA loans to this company will assist in making possible new and improved service for 2,203 subscribers. Seven of the proposed nine exchanges now furnish dial service to approximately 1,460 subscribers.

•

Mid-Kansas Telephone, Inc., Sterling; $369,000; Jan. 29.

This loan will aid in improving service for 577 subscribers and in furnishing initial service to 246 subscribers. The borrower has recently acquired with its own funds the Inman Mutual Telephone Co. and the subscriber-owned lines over which the Inman company furnishes switcher service. The acquired facilities now provide common battery and magneto service to the subscribers who will receive improved service with the assistance of this loan.

A new dial office will replace the existing switchboard at Inman. A portion of these loan funds will help to install facilities to improve service for the existing subscribers, and to complete the authorized system.

REA loans to this borrower will aid it to bring new and improved service to 3,685 subscribers. Six of the proposed seven exchanges now furnish dial service to approximately 2,460 subscribers.

•

Kamas-Woodland Telephone Co., Kamas, Utah; $445,000; Jan. 31.

Proceeds will help to improve service for 476 subscribers and furnish initial service to 240 subscribers. This new borrower of REA loan funds now furnishes limited dial service through its Kamas exchange to the subscribers who will receive improved service. It plans to construct a combined commercial and dial office building in Kamas.

Ward W. Blazzard is both president and manager of the Kamas-Woodland company.

AT&T Files Suit Against 9 Electric Equipment Makers

American Telephone & Telegraph Co. and other Bell System companies have filed damage suits in the United States District Court, Manhattan, N. Y., against nine electrical equipment manufacturers.

The suits relate to the purchase by the Bell System of three types of electrical equipment. An AT&T spokesman said:

"The aggregate purchases involved are in the neighborhood of 15 million dollars. While the individual purchases are relatively small in amount, we feel as a regulated industry that we should seek to recover such damages as may be established with respect to them."

The defendants named in each of the three suits were those who plead-

(Continued on page 38)

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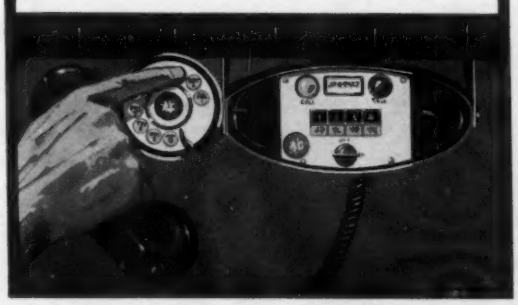

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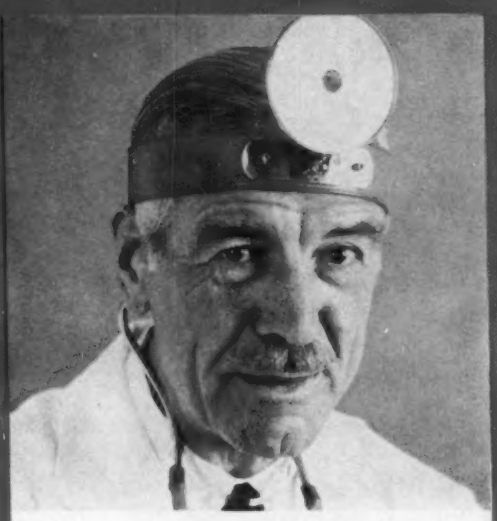

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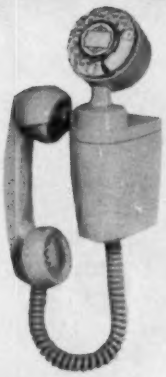

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ed last year in the United States District Court in Philadelphia to indictments charging price fixing in the three categories of equipment involved.

The nine are; Allen-Bradley Co., Allis-Chalmers Mfg. Co., Clark Controller Co., Cutler-Hammer, Inc., Federal Pacific Electric Co., General Electric Co., I-T-E Circuit Breaker Co., Square D Co., and Westinghouse Electric Corp.

Investment Firm Buys Minnesota Independent

Apache Corp. of Minneapolis, Minn., has announced the purchase of Upper Midwest Telephone Co., also of Minneapolis.

Upper Midwest is a non-operating company and holds a majority interest in the Watertown (Minn.) Telephone Co., which serves 5,071 subscribers in seven exchanges.

Harold L. Ericson, president of Minnesota Central Telephone Co., Hector, Minn., and other Minnesota companies, will head the new telephone division of Apache Corp. Apache is an investment and management company dealing in gas and oil explorations, real estate and mutual fund management. The purchase of Upper Midwest Telephone Co. marks its entrance into the utilities field.

Raymond Plank of Minneapolis, president of Apache Corp., states that Upper Midwest is the first step in a program to acquire other Minnesota telephone properties.

Mr. Plank also announced that a new operating company, Westonka Telephone Co., will be formed as a successor to the Watertown Telephone Co.

Set Hearings on Rates, Loan Request, Financing in Neb.

The Nebraska Railway Commission on Feb. 8 set the following dates for hearings:

On Feb. 20, a request of the Hamilton County Telephone Co., Aurora, to adjust its rates and charges.

On Mar. 2, a request of the Cambridge Telephone Co. to borrow funds and set rates for dial service.

On Apr. 17, a request of the Nebraska Central Telephone Co., Gibbon, for authority to re-capitalize and issue additional stock.

Ask to Raise Rates, Bill Franchise Taxes in Kansas

The Kansas Corporation Commission on Feb. 20 was to hear the application of the Craw-Kan Telephone Cooperative Association, Girard, to raise its rates by $26,760.

John Frerichs, company manager,

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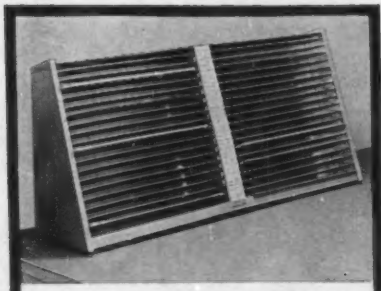

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For repair, assembly, test and paper work. Top drawer divided into 24 compartments for parts and tools. Large file drawers are for circuit drawings. 54" x 25" top covered with masonite. Height 36". Drawers may be inserted from back to reverse position of kneehole. No. D29978-3.

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For circuit drawing in crossbar offices, provides central location for reference material. Masonite top is 30" x 60". Height 36" at front, 42" at rear. Three large file drawers at left for drawings. Eleven shelves at right are 2½" high, 14" wide, 18" deep for sketches, sequence charts, book type SD sheets, trunk serials, etc. No. D30326-1.

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said the increase was needed to meet increased costs of taxes, labor and replacement of equipment.

The cooperative also asked to pass on to its subscribers any franchise taxes levied or to be levied by any municipality in which it provides telephone service.

Authorize Dial Increase, $92,000 Loan in Nebraska

Permission to increase rates and borrow $92,000 was granted the Curtis Telephone Co. on Jan. 31 by the Nebraska Railway Commission. (TELEPHONY, Feb. 3).

The company has entered into a loan agreement with its stockholders and subscribers whereby the $92,000 will be repaid over a period of 12 years with interest at 6 per cent per annum.

Curtis Telephone serves 508 company-owned and 79 switching stations at Curtis and in adjacent rural areas.

The Curtis exchange is being converted to dial operation, four-party residence service is being cancelled, and the following net rates will become effective with the conversion:

	Old	*New*
Business:		
One-party	$4.75	$7.50
Two-party	-	6.00
Residence:		
One-party	2.75	5.00
Two-party	-	4.00
Four-party	2.00	-
Rural	2.75	5.00

SW Bell Gets Rate Raise In Texas, Plans EAS

The McKinney, Tex., City Council on Jan. 28 approved a rate increase for the Southwestern Bell Telephone Co., effective in February.

Old and new rates were shown as follows:

	Old	*New*
One-party business	$10.00	$11.50
One-party residence	5.00	5.50

The company agreed to provide two-way toll-free service between McKinney and Princeton within 18 months, it was reported. Presently, Allen and Princeton subscribers can call McKinney without charge, but calls from McKinney to Allen and Princeton are toll calls.

Conn. Company Asks OK Of $32,000 Rate Raise

The Connecticut Public Utilities Commission on Feb. 20 was to hear the request of the Woodbury Telephone Co. to raise its rates $32,000 annually.

The company serves Woodbury, Southbury and Bethlehem. Toll free service is provided with Southern New England Telephone Co.'s Newton, New Milford and Waterbury exchanges.

Rule Directory Advertising Not Subject to City Tax in Pa.

President Judge Vincent A. Carroll of Common Pleas Court has ordered Philadelphia, Pa., city officials to stop attempting to collect mercantile taxes on directory advertising receipts of Bell Telephone Co. of Pennsylvania.

In 1952 the judge had ruled that the telephone company was exempt from the city's 3-mill mercantile license and tax. Later, the city itself held that the tax didn't apply to utilities.

However, the city's new claim had asked for tax payments of $329,541, not on utility receipts, but on advertising.

Judge Carroll ruled that everything the telephone company did was connected with the utility business.

General of SW Gets Two More Raises in Texas

The following rate increases became effective in two exchanges of General Telephone Co. of the Southwest, San Angelo, Tex., during the month of January:

Howe, Tex., dial 253 stations, Jan. 1.

		Old	*New*
One-party	business	$8.50	11.00
One-party	residence	4.75	5.75
Two-party	residence	4.00	5.00
Four-party	residence	3.50	4.50

Petersburg, Tex., dial, 699 stations, Jan. 6.

One-party	business	9.50	10.50
Two-party	business	7.50	8.50
One-party	residence	5.25	5.75
Two-party	residence	4.50	5.00
Four-party	residence	4.00	—

Wisconsin Company Gets $5,720 Rate Raise

The Tenney Telephone Co., Alma, has been granted an increase in rates by the Wisconsin Public Service Commission (TELEPHONY, Jan. 6). The raise will amount to $5,720 annually.

New rates are as follows:

One-party business	$7.20
One-party residence	4.85
Four-party residence	3.25
Rural service	3.50

The company said the principal reason for asking for the increase was the necessity for hiring an additional operator. The company currently employs two operators.

N. C. Company Asks Authority To Sell Stock to Parent

The Central Telephone Co., Hickory, asked the North Carolina Utilities Commission on Feb. 7 for permission to sell 50,000 shares of common stock to it its parent company, Western Power & Gas Co. (TELEPHONY, Jan. 6).

(Continued on page 44)

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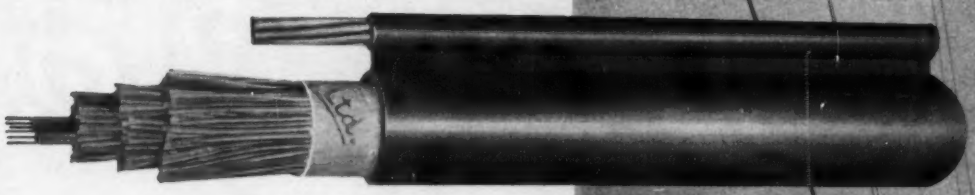

This unique local or exchange area cable developed by Hitachi derives its distinctive "gourd shape" from the polyvinyl chloride sheathing that totally encloses the polyethylene-insulated communication line as well as its parallel suspension strand. It can be used in all the applications of conventional PE-insulated PVC sheathed cable and, in addition, is suitable for installation on steep grades where paper-insulated lead sheathed cable could not be used.

Another notable feature of the gourd-shaped cable is that it dispenses with the need for hangers, making installation easier, cheaper and faster. It can be installed close to buildings and power lines with complete safety (the suspension strand can be grounded to reduce electrostatic induction in the latter instance), retains high transmission qualities under the most trying weather conditions, and successfully withstands attack by salt or airborne chemicals.

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The 34 exchanges listed here represent 26 telephone companies from all over the U.S. These companies are enjoying the versatile features of General Cable's Aluminum Sheath. Any of your neighbors on the list? If so, find out from them—first hand—just how good aluminum sheath really is! Or, write to us for a free booklet giving complete details on aluminum sheath's construction and installation, and the trouble-free service you can expect from it.

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Moreno
Sierra Madre
Sunland-Tujunga Tel. Co. ..... Sunland
Western California Tel. Co. ..... McCloud

HAWAII
Hawaiian Tel. Co. ..... Honolulu

INDIANA
Citizens Tel. Co. of Clay County, Inc. ..... Brazil
Decatur
Fairmont
Indiana Tel. Corp. ..... Seymour
Midwest Tel. Co. ..... Petersburg
Monon Tel. Co. ..... Monon
Nappanee Tel. Co. ..... Nappanee

IOWA
Butler Bremer Tel. Co. ..... Plainfield
Central Iowa Tel. Co. ..... Toledo
Griswold Co-op. Tel. Co. ..... Griswold
Sharon Center Tel. Co. ..... Sharon Center
Van Buren Tel. Co. ..... Bonaparte
Keosauqua

KANSAS
Western Light & Tel. Co. ..... Claflin

MINNESOTA
Minnesota Tel. Co. ..... International Falls

MISSOURI
Capital City Tel. Co. ..... Jefferson City

NEBRASKA
Lincoln Tel. & Tel. Co. ..... Hastings
Lincoln

OHIO
Germantown Independent Telephone Co. ..... Germantown
Northern Ohio Tel. Co. ..... Bowling Green
Elmore
Norwalk

PENNSYLVANIA
Commonwealth Tel. Co. ..... Quarryville

TEXAS
Palestine Tel. Co. ..... Palestine

UTAH
Bear River Tel. Co. ..... Tremonton

WASHINGTON
West Coast Tel. Co. ..... Marysville

WISCONSIN
Sharon Tel. Co. ..... Sharon

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GENERAL SYSTEM

Central Telephone said the stock would be sold for $2.25 less per share than the current over-the-counter cost, and the sale would realize nearly 1.4 million dollars for the company, which stated the money is sought for improvement of North Carolina operations and for purchase of the stock of some of its subsidiaries.

The company in December, 1961 asked the commission for permission to issue $5,300,000 worth of bonds for an estimated 7-million-dollar construction program.

Western Power & Gas already owns 56.5 per cent of the 2.6 million shares of Central's common stock outstanding.

The current petition noted that the 88 cents a share dividend being paid would represent a 3.18 per cent return on the investment in the proposed stock sale.

Find Cal. Woman Guilty; Hogged Line, Baby Dead

A rural Stockton, Cal. woman, found guilty of refusing to relinquish a telephone line to summon aid for a sick baby, was to be sentenced on Feb. 20.

Mrs. Virginia Irene Plumb was found guilty on Feb. 5 of failing to give up the line last July to Mrs. Ora Smith, whose critically ill baby died.

Defense for Mrs. Plumb asserted that no real emergency existed because the child was dead at the time its mother attempted to call. The prosecution held that Mrs. Plumb should be judged guilty of an attempt to commit the crime.

Requests for Rate Increases, EAS Heard in Wisconsin

The Wisconsin Public Service Commission on Feb. 14 was to have heard the application of Wisconsin Telephone Co. for authority to furnish EAS between its Green Lake exchange and the Ripon exchange of North-West Telephone Co., Tomah, and to increase rates.

•

On the same date, the commission also was to have heard the application of Rock River Telephone Co. for a rate increase, and to provide EAS from its Johnson Creek exchange to Watertown.

•

On Feb. 15, the commission was to have heard Antigo Telephone Cooperative's request for a rate increase.

Incorporate in Oklahoma

The Valliant (Okla.) Telephone Co. has been granted a charter of incorporation. The company has issued $50,000 worth of capital stock. Incorporators are Duane and Bobbie Sue Dorries of Valliant and John M. Mee of Oklahoma City.

Managers Attend W.S.T.A.— U. of W. Leadership Workshop

The Wisconsin State Telephone Association and the University of Wisconsin Management Institute, working jointly to conduct seminars specifically designed to benefit telephone industry personnel, conducted their fourth successful workshop on Jan. 16-18 at the University of Wisconsin Center building in Madison.

The latest seminar treated leadership methods for telephone company managers. Previous workshops dealt with merchandising.

A seven-man-Wisconsin association committee composed of J. M. Keating, Thorp Telephone Co.; George Griffin, Amery Telephone Co.; Paul R. Parsons, Rhinelander Telephone Co.; D. H. Hansen, La Crosse Telephone Corp. and association president; and Don Schumacher and Don Busse, General Telephone Co., of Wisconsin, cooperated with Prof. William P. Stilwell, assistant director of the management in-

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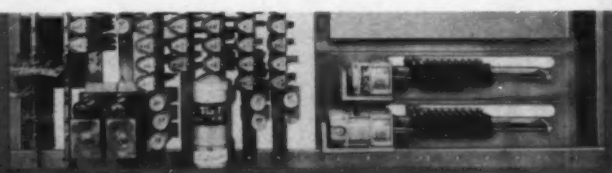
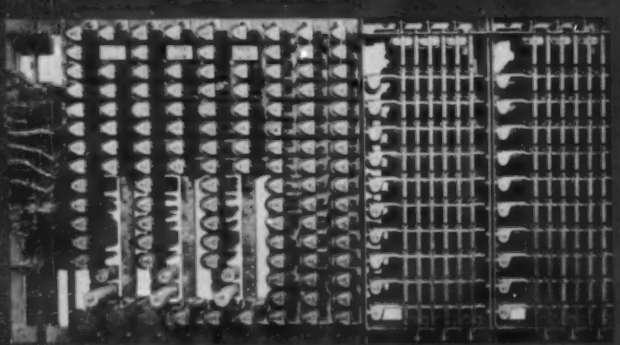
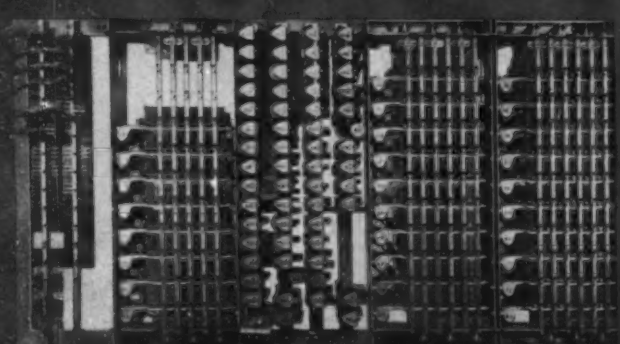
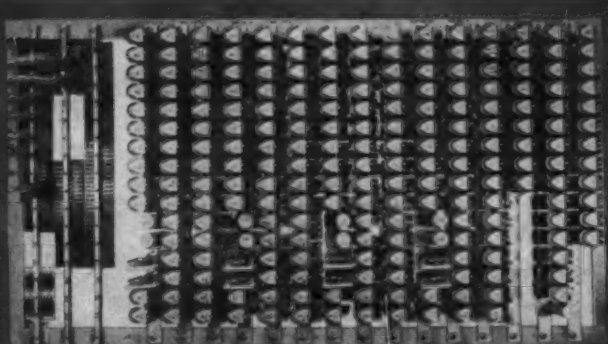




THE TELEPHONE SYSTEM WITH "SAVOIR FAIRE"!





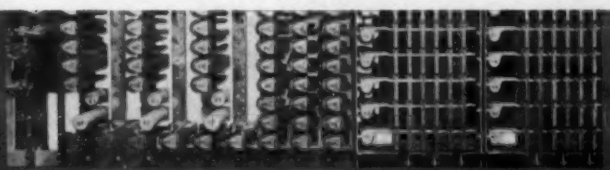
This group of telephone company managers attending recent workshop on Leadership, sponsored by Wisconsin State Telephone Association and University of Wisconsin Management Institute, posed with Institute heads. They are, seated, (left to right): Robert D. Glomski, of Wausau; James Smith of New Richmond; Joe Keating of Thorp; Ernst Reynolds of Sparta; Harold Keeney of La Crosse; James Engelman of Rhinelander; Ray Lamboley of Waunakee; Robert M. Sergenian of Madison; Robert G. Burger of Plymouth; Gerald Dickman of Boscobel; and Arnold H. Anderson of Viroqua.

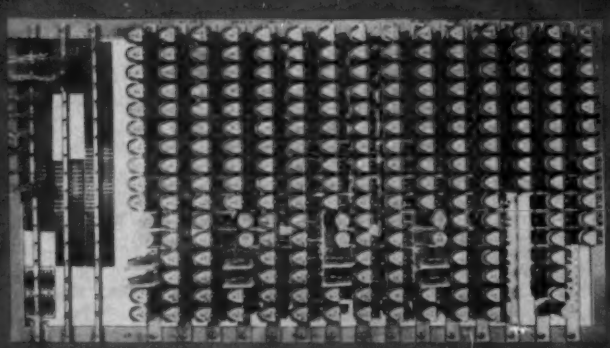
Standing (left to right): Brad Boyd of The Management Institute, Madison; W. O. Wollner of Madison; Ray J. Riordan, secretary-treasurer, Wisconsin Telephone Association, Madison; Gene Wenlund of Granite Falls, Minn.; James K. Harden of Silver Lake; Joseph Rassieur of Mankato, Minn.; Charles Kral of Rhinelander; Gilbert Karcher of Burlington; Eugene Fisher of Tomah; Gordon Hunger of Ripon; Claire Erickson of Grantsburg; Phil Bigley of Viroqua; Norris May of Glencoe, Minn; Kenneth H. Hoffman of Edgerton; and William P. Stilwell of The Management Institute.

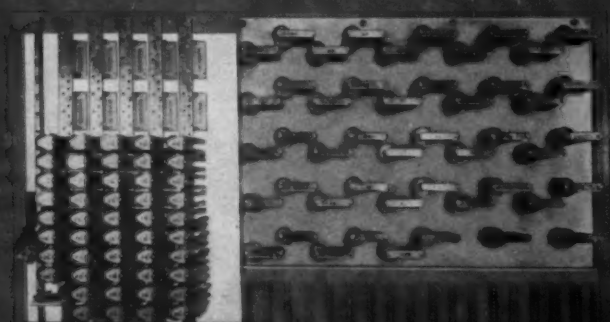
stitute, in setting up the program for all seminars held to date.

Leadership methods extended over three full-day and one evening session and covered these categories:

"The Job of Management" including







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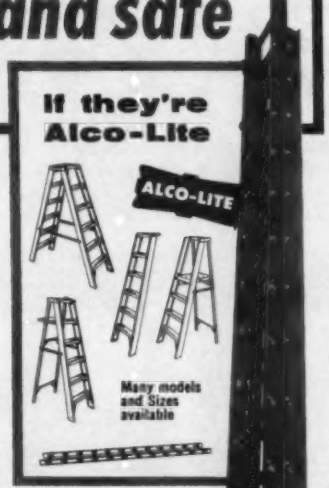

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Challenge of Management Today, Problem of Transition, Duties and Responsibilities and Qualities of the Manager, with Professor Stilwell, as discussion leader;

"Improving on-the-Job Communications", including What Communications Mean, How and Why We Communicate, Problems of Communication and How to Overcome these Problems—discussion leader, A. A. Tribbey;

"Creative Problem-Solving", including Brain Storming Technique—discussion leader, Prof. Frank Reighard, University of Wisconsin;

"Understanding the Individual Employe", including How People Differ, How People are Alike, and Techniques of How to Get to Know People Better—discussion leader, Prof. Brad Boyd of University of Wisconsin;

"Effective Discipline Methods", including Respect—the Cornerstone of Control, Five Steps to Corrective Action, and Practice in Taking Effective Disciplinary Action—discussion leader, Philip W. Behling, manager industrial relations, Pittsburgh Plate Glass Co.

"Motivating Employes for Better Results", including Why People Work, The Motivating Drive of People, Non-Financial Incentives for Improving Performances—discussion leader, Professor Boyd.

"Planning for Self Improvement", including Criteria for Measuring Managerial Effectiveness, Inventory of Personal Performance, and a Personal Plan for Self-Improvement—discussion leader—Prof. Norman C. Allhiser, director, University Management Institute.

At the end of each period, individuals attending the seminar rated the discussion leader and the particular session he conducted. Composite rating of the seminar, by the enrollees was 3.9 of a possible 4.0.

Indiana Bell Launches ETV System for Indiana U.

Indiana Bell Telephone Co. has launched for Indiana University the initial phase of a closed-circuit educational television system which the company says is destined to become the first of its kind in the nation.

Service began Jan. 30 over the 50-mile TJ microwave system linking the university's campus in Bloomington, Ind., with its downtown extension center in Indianapolis.

The university will use the TV hookup for full instruction of three extension classes and part instruction of a fourth this semester.

As the first class was beginning its use of the system—first of its kind in Indiana—it was announced that a similar setup will be provided next fall between the Purdue University campus at West Lafayette, Ind., and the Purdue extension center at Indianapolis. At that time, the campuses of the two state universities, some 85 miles apart, will be inter-connected with the two Indianapolis extension centers via television. This will be, Indiana Bell says, the first such two-way facility in the United States.

Indiana Bell made the system ready for service—virtually from "scratch"—in less than three months. The television signal is carried by coaxial cable from the IU studio in Bloomington to a campus classroom; from the studio to Indiana Bell's Indianapolis headquarters building by microwave, through a series of three relay stations. From the headquarters building to the Indianapolis extension center, it travels by coaxial cable.

Telephone "talkback" circuits, enabling students both on the campus and at the Indianapolis extension center to enter into discussion with the instructor, have been established via telephone facilities.

Puerto Rico Company Elects Behn As Its President

The election of Sosthenes Behn II as president was announced on Feb. 2 by the board of directors of the Puerto Rico Telephone Co., a subsidiary of International Telephone & Telegraph Corp.

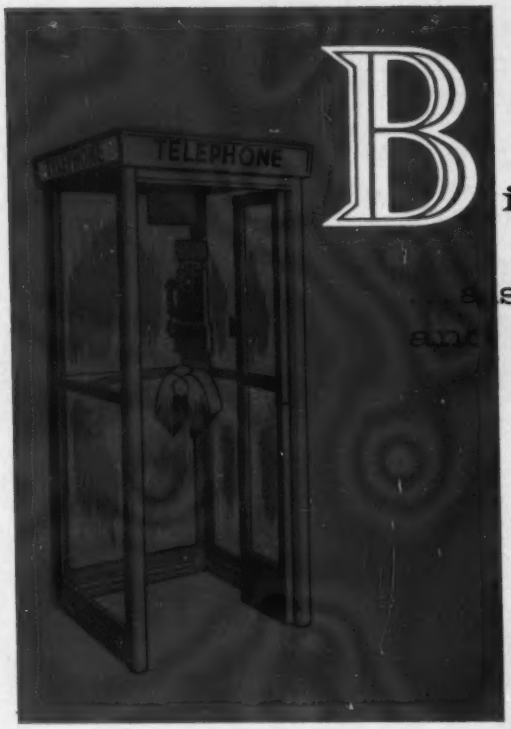
Mr. Behn, who has been with ITT since 1933, was president and general manager of Compania Peruana de Telefonos Limitada, ITT's telephone operating company in Peru, prior to his Puerto Rican assignment. He is the son of the late Hernand Behn, who founded ITT in 1920 with his brother, the late Sosthenes Behn.

A communications specialist, Mr. Behn held several top supervisory posts with ITT operating companies in Latin America before entering the U. S. Army during World War II as an officer in the Signal Corps. Following 19 months duty in Alaska, he was reassigned to Supreme Headquarters, Allied Expeditionary Force, and was awarded the Bronze Star for distinguished service.

From his discharge in 1945 until his Peruvian appointment, Mr. Behn was general manager of several former ITT telephone operating subsidiaries in Mexico.

His business and civic contributions since the war earned him the Order of Merit from the Peruvian government and the Order of Leopold from the Belgian government.

Mr. Behn attended Canterbury School and the School of Business Administration at Columbia University.



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J. B. Atherton, President Of Hawaiian Telephone, Dies

J. Ballard Atherton, 51, president and general manager of Hawaiian Telephone Co. and a director of the United States Independent Telephone Association, died on Feb. 5 at his home in Honolulu.

J. B. ATHERTON

A third generation telephone man (his father was on the Hawaiian company's board of directors and his grandfather its third president), Mr. Atherton joined the company in 1940 as plant engineer. He was named assistant secretary in 1943, and the following year was appointed assistant manager. He became a vice president in 1944, and in 1950 was named president and general manager.

During his 11-year stewardship, Hawaiian Telephone grew from a company serving less than 100,000 telephones to one serving more than 220,000 telephones throughout Hawaii —the only Independent company to serve an entire state.

Mr. Atherton directed the company's participation in the Hawaii-to-California cable in 1957, and at his death was deep in plans for the company's participation in the Hawaii-to-Japan cable, the second cable to California, and in the proposed U. S. global satellite communications system.

As chairman of the Honolulu Charter Commission in 1958, Mr. Atherton, led the drafting of the first fundamental change in the city's government in over 50 years.

Mr. Atherton also was president of the Honolulu Chamber of Commerce in 1958, president of the Honolulu YMCA from 1930 to 1954 and president of the Pacific and Asian Affairs Council from 1945 to 1956.

At his death, he was vice president of the Hawaii Publishing Holding Corp., a holding firm for the Honolulu *Star Bulletin* and the Hilo *Tribune Herald*, two leading newspapers in the islands. He also was second vice president of the Oahu Development Conference, a planning group, and first vice president of the Community Chest.

Mr. Atherton was a director and executive committee member of Castle & Cooke, Inc., and a director of the Bank of Hawaii, Hawaiian Electric Co., and Welding & Industrial Products.

He was a member of the American Institute of Electrical Engineers, Institute of Radio Engineers, Engineering Association of Hawaii, and the Armed Forces Communications & Electronics Association. He also was a member of the Rotary Club of Honolulu, Pacific Club, Oahu Country Club and the Outrigger Canoe Club.

Mr. Atherton was born in Honolulu. He earned his bachelor's degree at Princeton University and his electrical engineering degree at Ohio State. He also did graduate work in communications at Ohio State.

A bachelor, Mr. Atherton is survived by his mother, Mrs. Frank C. Atherton; a brother, Alexander S., and a sister, Mrs. Chauncey B. Wightman.

Obituaries

SAM B. MCCOOL, 58, general information manager of the Michigan Bell Telephone Co., died of a heart attack on Jan. 29 in Henry Ford Hospital in Detroit.

Mr. McCool, who was well-known among Michigan editors because of his press relations contacts, had his last association with friends in the newspaper business during the previous weekend in Lansing, where he attended the winter meeting of the Michigan Press Association.

Mr. McCool was responsible for press relations since joining Michigan Bell in 1939.

He was born in Alabama and reared in Mississippi.

Mr. McCool went to Michigan as a Lansing correspondent for the Associated Press in 1927. After his graduation from Colorado College, he worked on newspapers in Los Angeles and Texas. He was holder of a journalism degree from the University of Missouri as well as a bachelor of arts degree from Colorado College.

From 1935 until he joined Michigan Bell, Mr. McCool was assistant public relations director of the Michigan State Highway Department.

At Michigan Bell, he was named general information manager in 1950, having the responsibility for public information, both through the newspapers and through company publications.

He was a member of the Sigma Delta

Chi fraternity, and a member of the Public Relations Society of America.

He is survived by the widow, Florence; a daughter, Mrs. E. Donald Nelson, of Oak Park, Ill.; his mother, Mrs. James H. McCool; a brother, James M., of Billings, Mont. and by a grandson.

•

GEORGE W. LAMBERT, an outside plant engineer for Southern Nevada Telephone Co., Las Vegas, died recently in Gallup, N.M., while returning home from a vacation trip. Mr. Lambert was 43 years old.

Prior to affiliating with the Southern Nevada company, he had worked for Ohio Bell Telephone Co. at Akron, Southwestern Bell Telephone Co. at Houston, Tex., and Henkels & McCoy, of Philadelphia, Pa.

Survivors include the widow, Sarah, of Las Vegas.

Seattle IRE Hosts Regional Conference, Directors' Meeting

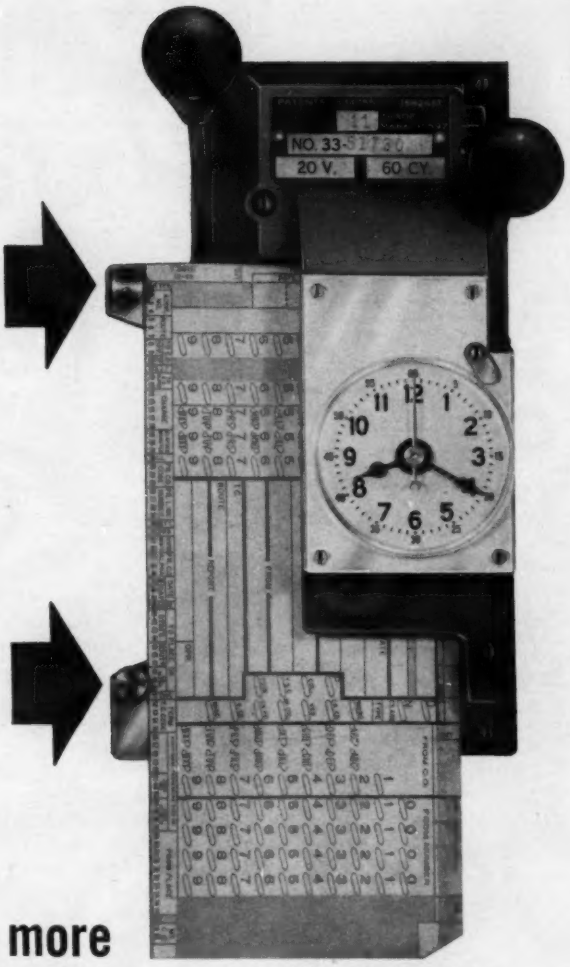
The Seattle section of the Institute of Radio Engineers will host the IRE Seventh Region Conference on May 24, 25 and 26, in Seattle, Wash. The theme of the conference will be "Space Communications", and it will stress the impact of electronics on the cultural and social life of the future.

Because of the international importance of this conference, and to celebrate the 50th anniversary of the founding of the professional society, the board of directors of the IRE, consisting of 25 world famous scientists and engineers, will hold their annual meeting during the conference.

In honor of the occasion, The Seattle World's Fair will designate Friday, May 25, as "Electronics Day".

Safety Memos

"To bring about greater efficiency, the outside plant and central office equipment of today's telephone systems have been tremendously improved. Circuit operating speeds have been increased, subscriber station apparatus has been made more convenient and countless other improvements have been made. The result is that customers are receiving the best and most rapid communication service in history. The application of this same spirit of progressive activity to the practice of safety is essential to the elimination of accidents. Think Safety. Practice Safety."—John A. Bracken.



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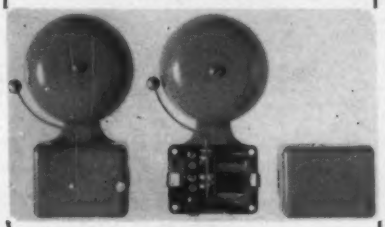

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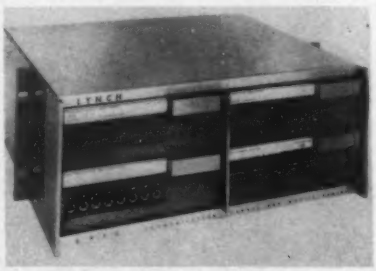
Helpful Literature

COMMUNICATION CHANNEL FOR MOBILE RADIO—New descriptive literature issued by Lynch Communication Systems Inc., describes the Lynch communication channel for mobile radio, type B910, which is reported to provide a two-way talking channel on a microwave radio system and a means of turning on a remotely-located VHF radio transmitter to provide telephone communication with mobile units.



Continuous contact may be maintained with mobile stations over the length of a microwave system, Lynch says, by locating VHF base station transmitters and receivers at microwave repeater sites and equipping each with a Lynch B910 communication channel for mobile radio. These channels will work directly into the high-density Lynch B910 terminal equipment at either end of the microwave system.

The solid state communication package utilizes standard B910 units and a special VHF keying unit in one terminal assembly to derive both the speech modulation and transmitter control for unattended, fixed station VHF transmitters. A typical installation, the brochure explains, would include the B910 communication channel for mobile radio located at the microwave repeater site with the other end of the channel located at the high-density, microwave system terminal.

The communication channel for mobile radio is described as being compatible with CCITT standard systems and WE "L" carrier systems in the frequency range between 60 kc and 2540 kc and is also available in the 8 to 60 kc allocation. Request HL724.

•

PRESSURE TREATMENT—The proper pressure-treatment of wood cross-arm blanks, used for utility poles, is explained in a new booklet, published by the Wood Preserving Division of Koppers Co., Inc.

The booklet points up the logic of pressure-treatment, according to Koppers, ". . . up to 30 years or more of trouble-free service. . . ", then details such advantages as protection against decay, stability, economy and strength.

Quality control, delivery, preservatives and specifications are also included in this new Koppers booklet. Request HL725.

•

DISPOSABLE GLOVES—Wil-Gard Poly-D disposable gloves, said to be

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Please have the manufacturer send me without obligation the literature indicated by the following numbers:

HL724_____; **HL725**_____; **HL726**_____; **HL727**_____; **HL728**_____.

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Company .....

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2/17/62

newly-improved in a "soft formulation" polyethylene plastic, are described in literature released by the Wilson Rubber Co.

This new glove is described as providing extra toughness and touch sensitivity, while permitting greater flexibility for hand protection. It is moisture proof against many chemicals powders, and resins.

Information includes ratings on chemical resistances, and data on the glove and special wall-dispenser carton that holds 72 gloves. Request HL726.

•

ELECTRICAL WIRE TACKERS—The full line of "Heller-Grip" electrical wire tackers is described in catalog TKL by Roberts Instruments Corp. This new catalog includes five models suited for various types of installation and maintenance work in telephone, electronics and low-voltage electrical wiring.

Model TO-12, the illustrated catalog states, is suited to most wiring jobs, such as fastening braided, jacketed, single or double strand, hollow tubes, or covered cable. It drives staples into plaster, hard or soft wood and other hard materials.

Model TO-14 is specially designed for fastening tubing for thermostat controls or coaxial cable and similar off-standard work.

Model TO-15 is for automatic speed-fastening of low-voltage wire and hollow tube lines to baseboards, plaster walls, window frames, door jambs, rafters and around difficult angles or corners.

Model TO-16 is for extra-heavy-duty tacking of heavy, non-metallic sheathed conductor, multiple-wire telephone cable, and copper tubing.

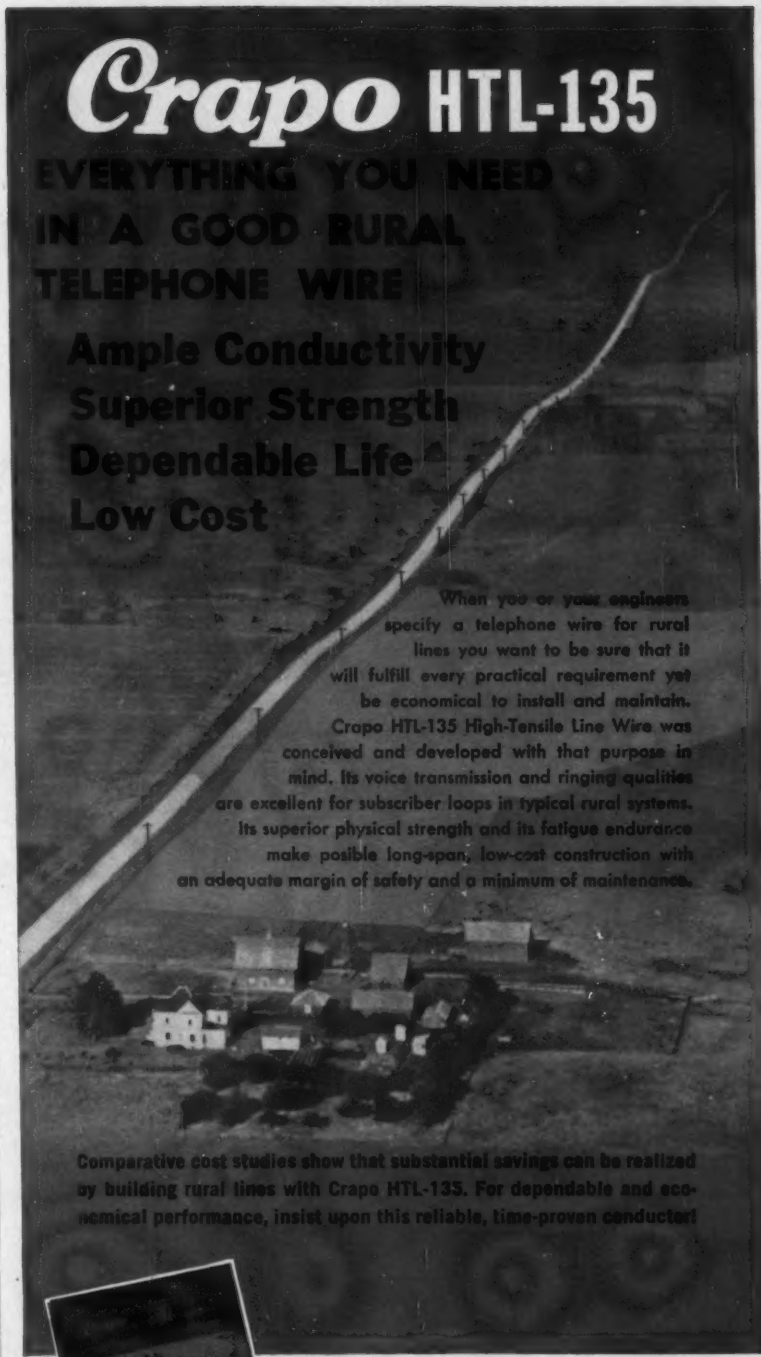
Model TT-20 is a light-weight, compact (pocket-size) tacker for driving staples in corners, angles and similar hard-to-get-at spots encountered in telephone and other electrical work.

The new catalog also includes information on Heller Roberts' standard precision, and copper-plated *Heller-Ply* staples. Request HL727.

•

TAPES, ADHESIVES, INSULATING MATERIAL DATA BOOK—Permacel, manufacturer of pressure-sensitive tapes, adhesives and electrical insulating materials is offering a new, revised condensed data book, listing and describing its complete product line.

The 16-page booklet lists all Permacel products, with a brief description of each, with properties, uses, government specification certification and product highlights. Request HL728.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WRITE for Engineering Manual TM-59 containing Sag and Tension Data, Staking Tables and Guying Tables.
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Muncie, Indiana

Wisconsin Telephone Reports 3 Executive Appointments

Three high-level appointments have been announced by the Wisconsin Telephone Co.

David F. Nelson was appointed acting general plant manager as of Feb. 1. He will succeed Milton P. Naab as general plant manager when the latter retires on Mar. 1.

Roy E. Alberts will replace Mr. Nelson as general traffic manager; and Otto A. Ten Broek, assistant vice president-personnel, will succeed Mr. Alberts as assistant vice president-operations. Messrs. Alberts and Ten Broek assumed their new positions on Feb. 1.

A graduate of the University of Wisconsin, Mr. Nelson joined the Wisconsin Telephone Co. in 1946 as a commercial representative and was transferred to the traffic department the following year.

In 1957 he attended the Institute of Humanistics, a Bell System management training program, at the University of Pennsylvania. Upon his return in 1958, he was named general plant personnel supervisor. He returned to the traffic department as its general manager in 1959.

Mr. Nabb, who will retire with 45 years of service, joined Wisconsin Telephone as a repairman in 1916. Working part time while going to school, he earned his electrical engineering degree from the University of Wisconsin in 1924. He has been general plant manager since 1943.

D. F. NELSON

The new general traffic manager, Mr. Alberts, is a University of Wisconsin graduate who started his career with the company in 1949. He has held various managerial posts in the commercial dpeartment.

In 1957, he was named to the staff of the American Telephone & Telegraph Co.'s marketing department in New York. He returned to the Wisconsin company in 1961.

Mr. Ten Broek began his career in 1936 as a statistical clerk in the company's accounting department. He is a graduate of Carroll College, and he also attended the Institute of Humanistics at the University of Pennsylvania.

R. E. ALBERTS

O. A. TEN BROEK

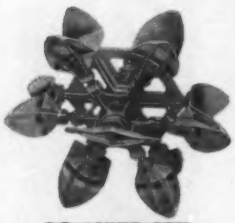
Mr. Ten Broek was named state division traffic manager in 1950 and general traffic manager in 1956. Two years later, he became assistant vice president-personnel.

Files for New Name in Alaska

Community Utilities Inc., headquartered at Quilcene, Wash., but operating in Skagway, Alaska, has filed a petition in Washington to increase its capital and to change the company name to Alaska Power & Telephone Co. Inc.

GENERAL MACHINE PRODUCTS COMPANY, INC.

Old Lincoln Highway at Pa. Turnpike, Trevose, Pa.



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Bell Heads Participating in Occupation Safety Conference

Eugene A. McNeely, president of the American Telephone & Telegraph Co., will be a principal speaker on opening day of the President's Conference on Occupational Safety, on Mar. 6, 7, and 8, in Washington, D. C.

His subject will be "The Nation's Safety Corps—A Combined Task Force", and he is expected to place emphasis on the need for enlisitng all elements of the industrial team—management, engineering, industrial medicine, industrial hygiene, health physics, aerospace medicine, etc.—in planning safety in a rapidly-changing technological environment.

More than 3,000 key figures of the nation's economic and cultural life will attend the conference at the invitation of President Kennedy, who is expected to speak at the opening session in Constitution Hall.

Under the theme "Safeguarding Human Worth", the conference will seek solutions and their application to safety problems emerging in the Space Age, as well as those which President Kennedy has described as "tragically familiar to us all".

Topics of major addresses, and the eight workshop sessions, will range from safety for astronauts on the launching pad and the thousands of workers who put them into space, to safety on the loading docks of the nation's ships and trains.

Conference emphasis on job safety in the non-manufacturing segment of the economy recognizes the new predominance of those industries in terms of number of workers. Labor Department statistics show that in 1960, 80 per cent of the 2 million work injuries occurred outside the manufacturing industry, which has long concentrated on safety.

Another telephone industry representative, Dr. R. Lomax Wells, medical director for the Chesapeake & Potomac Telephone Cos. will be a panel member in the workshop on applying the skills of medical and administrative disciplines to the "team" concept of safety envisioned by Mr. McNeely.

Secretary of Labor Arthur J. Goldberg is general chairman of the conference. The U. S. Labor Department's Bureau of Labor Statistics acts as its secretariat, under director Arthur W. Motley. Deputy director George T. Brown is coordinating the conference program and planning arrangements.

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Self-sticking Dial Plate Stickers with Area Code, Area Code and ANC numbers, or complete number as illustrated. Furnished complete with instructions for subscriber installation. Easy to mail with monthly bill . . . for hand or automatic inserting into envelopes. Choice of self-sticking materials: paper, plastic or metallic. Phone for complete information or write:

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- PLASTIC STUB ASSEMBLIES ARE SEALED IN THERMOPLASTIC COMPOUND TO INSURE PROTECTION FROM MOISTURE.

These assemblies can be equipped with loading coils, capacitors, inductors and MF units.

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Longitudinal copper shield corrugated on large diameter cables for flexibility.

5 mil copper tape on standard cable.

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Black polyethylene outer sheath.

THE
PLASTIC WIRE & CABLE CORPORATION
JEWETT CITY, CONN.

TRAFFIC PAGE

Continued from page 27

come each new instruction and each new service.

A great big "Danger—Beware of Stagnant Thoughts" sign should be posted in front of the person who resents or fears changes. We certainly are going to have many more changes in the Traffic Department. But it's exciting—and fun—to keep up with our rapidly changing traffic procedures.

Traffic Quiz

1. Q. What is the definition of WADS?

A. Wide Area Data Service, which is a proposed Bell System service providing a flat rate treatment for exchange teletypewriter service.

2. Q. What is meant by Bell Boy Signaling?

A. Bell Boy is the Bell System's trademark for a personal signaling service, which provides the customer with a small pocket radio receiver. When a signal is received, the customer calls a pre-arranged telephone number, such as his home or office, to receive a waiting message.

3. Q. What is the definition of ETV?

A. Educational Television. This service transmits educational programs to specified school classrooms.

4. Q. What is meant by Special Q-Z billing numbers?

A. For billing purposes, certain customers may be assigned special billing numbers. The Q-Z special billing number consists of seven digits and the second digit is always a Q or a Z.

5. Q. How is a Q-Z billing number entered on the ticket, and how is the call handled?

A. If the Q-Z number is given as the calling number, enter the first three digits to the left of the vertical line and the last four digits to the right of the line in the "From No." space. (Some companies do not assign Q-Z calling numbers.) If either party asks that the call be billed to a Q-Z number, the call is handled as a bill to third telephone call.

General to Erect $2 Million Contemporary Bldg. in Ohio

The General Telephone Co. of Ohio's proposed 2-million-dollar general office building will present a new concept of contemporary architecture in Marion and central Ohio.

This structure will feature a white sculptured concrete motif with white pre-cast concrete columns. It was designed as a contemporary counterpart of the classic architecture of the Harding Memorial.

Plans call for construction to start in late summer with a tentative occupancy date of late 1963. The office building will be situated in Executive Center, just south of the city limits, facing Route 23.

Architects are Edwards & Burris of Marion. When completed, the General Telephone building will be Marion's largest office building.

The white columns, to be made of pre-cast concrete and marble chips will surround the entire building, enclosing a 14-foot portico (see cover photo). The exterior of the building will have glare-reducing glass panels.

The building's exterior, including the portico, will be 168 feet by 228 feet, with interior dimensions of 140 feet by 200 feet and interior space of approximately 84,000 square feet. Site of the new headquarters is a 13.64-acre tract of land.

There will be three floor levels, one of them to be below ground level.

A 32-foot-wide main entrance will open into a two-story-high lobby containing an information desk and open visitor's lounge, furnished in contemporary manner.

Two parking areas are planned. Visitors' parking will be in front and recessed so as to not be visible from streets. The other, for employes, will be elevated and situated behind the building.

General's 26-vehicle carpool parking facilities will be on the lower level, which will also contain a loading dock, a mail room, duplicating department, heating and air-conditioning equipment, and centralized control mechanisms.

Besides the lobby, the main level will house the executive offices, conference rooms, a coffee and dining area, plus the treasury, personnel,

Here's a "unitized" aerial lift — vehicle and lift in one unit and at a low price. The "Hi-Arm" is ideal for overhead work — easy to maneuver, compact, lightweight, flexible, truck-mounted, hydraulic. Available in three different sizes — 28', 32' and 36', with either single or tandem cab. The two-foot-square bucket has a 300-lb. capacity. Operator can step easily from cab to basket. Write for further information and specifications.

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SPEAKER-PHONE AMPLIFIER

Here's how to sell more service, better service! The new Telecom SP-3 Speaker-Phone Amplifier and any 45 OHM speaker is all you need to convert any telephone station to a loud-speaking station.

It's a *custom* service for shipping docks, warehouses, production lines; for areas where people cannot leave their posts. It's ideal for lengthy calls, reports or conferences.

A voice operated relay (V.O.R.) permits complete "hands-free" operation of the station. Standard SP-3 does not allow call origination; complete control is maintained by the calling telephone.

No manual switching or push-buttons are required. The calling party simply dials the speaker-phone station from any phone in the system and starts talking. The called party answers from any point within a 40' radius.

The input signal from the telephone line can be as low as —10 db.

The 5 watt output of the SP-3 is ample to drive one or more high penetration speakers in high noise level areas.

The SP-3 Speaker-Phone Amplifier can be used in any independent phone system with the addition of a ring trip circuit. With Telecom automatic switchboards (and similar internal phone or intercom systems) connection to the board is made with a standard two (2) conductor telephone line.

Ask your Telecom distributor about this new, versatile service . . . and the complete line of Telecom speakers for all locations. Or write direct.

COMMUNICATIONS DIVISION
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public relations and general accounting departments.

Commercial, traffic, marketing and sales, plant and engineering offices will be on the upper level. A portion of this second level's corridor will overlook the lobby, lending a balcony effect. Acoustical ceilings will be installed throughout the building.

Present plans call for the main office building in Marion to be used as central division and Marion district headquarters. The central exchange office also will remain there.

More than 500 employes work in General of Ohio's division, and district offices in Marion.

First Stage of Cable, Linking U. K. and Iceland, Completed

The first stage of a new transatlantic cable system linking the United Kingdom and Canada via Iceland and Greenland was completed recently. It is now possible for air traffic control officers in Prestwick, Scotland; Shannon, Greenland; Reykjavik, Iceland; and Gander, Newfoundland, to speak to one another by telephone, and for the Civil Aviation Communication Centre at Croydon, England, to telegraph direct to its counterpart in Iceland messages relating, for example, to aircraft movements and weather conditions. Until the inauguration of the cable, the link has been by radio teleprinter, which is subject to interruption when transmission conditions are poor.

The U.K.—Iceland link, which is called Scotice, is a coaxial armoured submarine cable 0.46 inches in diameter and manufactured by Standard Telephones & Cables Ltd. It is equipped with 25 submerged repeaters and contains other circuits besides those leased for purely aeronautical purposes.

The U.K. terminal is at Gairloch in Scotland and the cable runs 290 nautical miles to the Faroes (Danish Islands) and a further 400 nautical miles to Iceland.

The second stage of the project, known as Icecan, will link Iceland with Canada via Greenland and is due to be completed in December 1962. A direct telephone circuit will then be available between air traffic controllers in Prestwick, Reykjavik, Gander and Shannon, together with four telegraph circuits.

The laying of Scotice and Icecan will fulfill important requirements of the International Civil Aeronautical Organization (ICAO) in providing reliable speech and telegraph communication between air traffic controllers covering the North Atlantic.

These controllers are at Shannon, Prestwick and Reykjavik, Prins Christian Sund and Gander and with jet aircraft they require immediate and reliable communication with each other. In addition to these ICAO circuits, the Scotice cable will provide for a number of other telephone and telegraph requirements for some time to come including those between Denmark, Iceland and the Faroes and between London, Iceland and the Faroes.

The complete Scotice cable system has been designed and engineered by Standard Telephones and is being set up as a joint undertaking by the British Post Office, the Great Northern Telegraph Co. of Denmark, the Danish PTT and the Iceland PTT. The cable will have 24 3 kc/s spaced telephone channels.

Communications from the United Kingdom and Denmark with Iceland and the Faroes will be much improved and the service will be available seven days a week at any time of the day or night. At present, calls to Iceland are connected by radio and are limited to four hours a day on Monday to Friday and three hours on Saturday. Calls to Faroes are connected via Copenhagen on the cable to Denmark and thence via radio link to Torshavn.

IRE's Golden Anniversary Meeting To Be Held in N. Y.

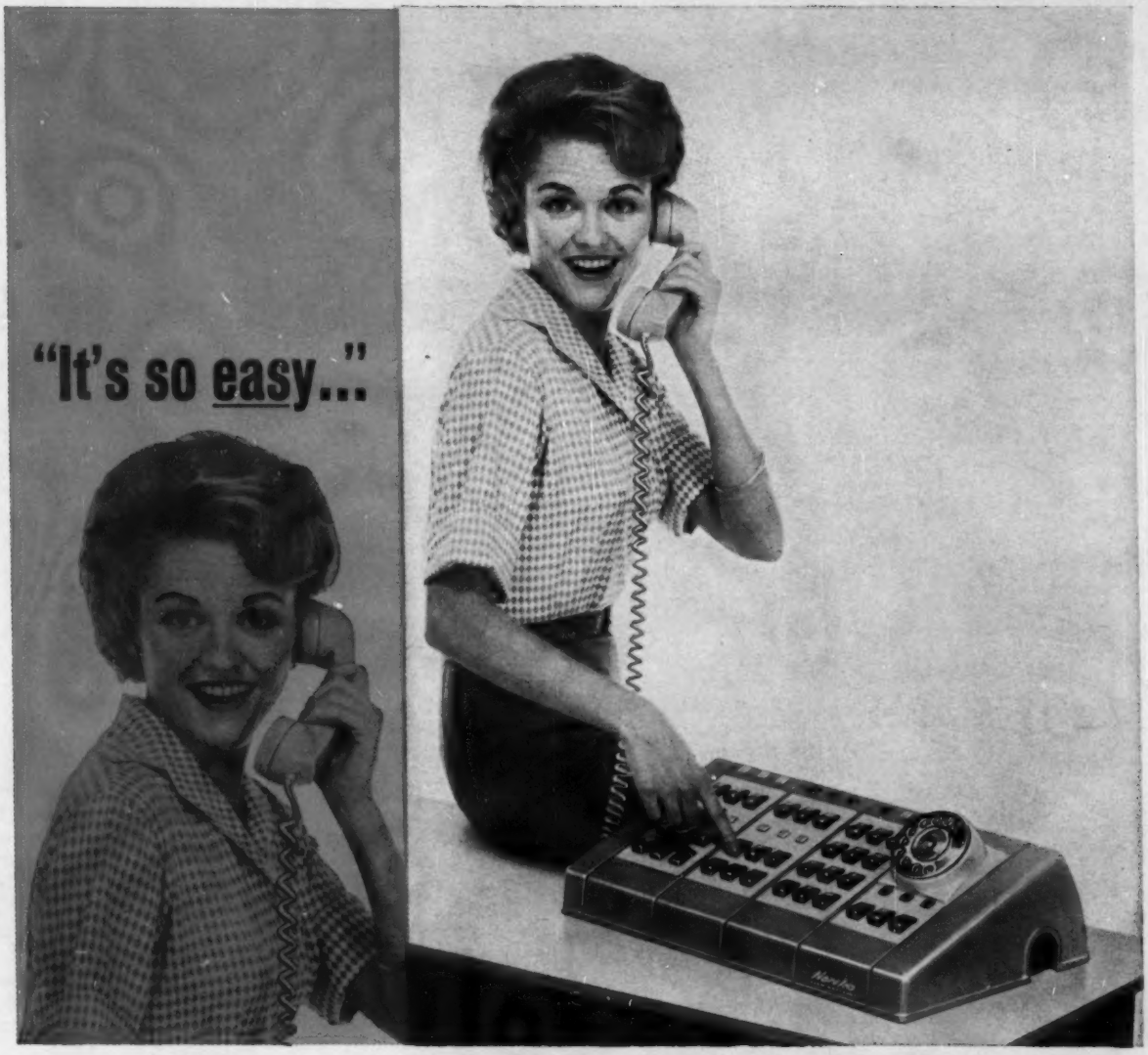
The 1962 Institute of Radio Engineers International Convention, honoring the 50th anniversary of the IRE, will be held on Mar. 26 through 29 at the Waldorf-Astoria Hotel and the New York Coliseum in New York City. More than 70,000 engineers and scientists from 40 countries are expected to attend what has become the world's largest technical meeting and exhibition.

A comprehensive program of 240 papers, covering the recent developments in electronics and communications, will be presented in 54 sessions. The high point of the program will be a special symposium on "Man and Sophisticated Communications" to be held Mar. 27 at the Waldorf.

In honor of IRE's golden anniversary, the "Golden Age Of Electronics" will be the theme for the IRE show.

Gen. David Sarnoff, chairman of the board of RCA and former secretary of the IRE, will be the principal speaker at the Golden Anniversary Banquet, which will be held on March 28 in the Grand Ballroom of the Waldorf-Astoria Hotel.

The 1962 medal of honor will be presented during the banquet to Sir Edward N. Appleton, Internationally renowned radio physicist and principal and vice chancellor of the University



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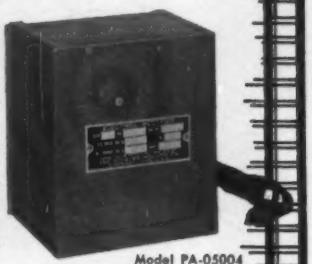

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Schauer Type PA-05004 Battery Eliminator delivers constant, hum-free direct current to the operator's circuit. Equipped with relay for automatically transferring power to stand-by dry cells in the event of AC failure. Standard capacity is 4 volts DC at 0.5 amps. Steel case, for wall mounting is 5½"x6¼"x4".

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of Edinburgh, Edinburgh, Scotland. The newly elected Fellows of the IRE will also be honored on this occasion.

This year a special session will be held on Mar. 26 in the Waldorf Grand Ballroom to discuss the possible consolidation of the IRE and the AIEE. The discussion will be conducted by a panel comprising the eight-man joint committee which was formed by the two boards of directors (AIEE and IRE) to study the proposal. The audience will have an opportunity to ask questions from the floor. No registration fee will be required for this one session.

IN THE NATION'S CAPITAL

Concluded from page 20

ka; California-Hawaii twin cables; another transatlantic cable; and Florida-Puerto Rico. The five recently installed cables, which represent a large capital investment, are more reliable and efficient and have a greater capacity than the older ones. Fidelity and continuity of transmission are improved by the use of precision repeaters at 40-mile intervals. Construction of a sixth, New Jersey-Bermuda, was almost completed at the end of 1961.

Has 80 Channels

The newly constructed New Jersey-Bermuda cable began operating in January, 1962. It has a capacity of 80 channels and supplements the radiotelephone circuits now in operation. The availability of circuits in the British Commonwealth cable between Scotland and Canada, completed in December, 1961, will improve communications with the United Kingdom and a number of other European countries.

In 1961, the FCC authorized a U. S. company to construct submarine cables between Florida and Jamaica (1962), New Jersey and England (1963), Hawaii and Japan via Midway, Wake and Guam (1964), and Puerto Rico and Antigua (date not specified). Further plans include extending the projected Jamaica cable to other areas in the Caribbean (1963) and constructing a second cable between Hawaii and the United States (1964). The projected transpacific cable may be further extended, at a later time, from Guam to Okinawa and the Philippines. Circuits in the proposed British Commonwealth cable across the Pacific will be available for communications with the United States.

The New Jersey-Bermuda cable, as well as the planned cables, will employ equipment of new design. A cable composed of a steel wire core copper-wrapped and insulated with polyethelene which, except at the shores, will not require the armoring used in previous deepsea cables; and rigid two-way repeaters spaced about 22 miles apart. These cables will have a much greater capacity than those placed in service between 1956 and 1960.

FCC Gets Results of Study

A preliminary report consisting of three volumes and 22 chapters based on a study of the Federal Communications Commission conducted by the research firm of Booz, Allen and Hamilton has been distributed to FCC commissioners and key staff employes. The most important change recommended is the establishment of the office of executive director. The report urged that broad powers be delegated to the new official and that many independent offices and branches be placed under his supervision.

The final version of the report is due Feb. 28.

Public Power Grows

The American Public Power Association claims that public electrical utilities are growing much faster than private power companies. The association, citing Federal Power Commission statistics, said government-owned systems added 70.2 per cent more customers in the 1946-59 period compared with 57.7 per cent for the private power companies.

Bell Labs. Release Two More College Science Films

Two new sound motion pictures, on the subjects of vision and magnetism, have recently been added to the Bell Telephone Laboratories college science film series. Entitled "Short Term Visual Memory" and "Domains and Hysteresis in Ferromagnetic Materials," the films were prepared by Bell Laboratories scientists who are recognized authorities in their fields, and are available on free loan from Bell Telephone company offices.

"Short Term Visual Memory" (16-mm; sound; black and white, 18 min.) is the story of an experiment in visual perception which was recently conducted in the visual and acoustics research department of the Bell Telephone Laboratories.

In the film, Dr. Emanuel Averbach and Abner S. Coriell, the scientists on the project, demonstrate the existence in the seeing mechanism of a tempo-

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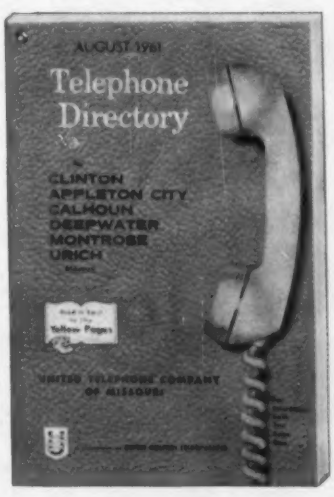

A Directory for the

United Telephone Company of Missouri

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The Model 45 (illustrated) is one of a full line of wall-mount or floor models to choose from. Write for descriptive literature and prices.

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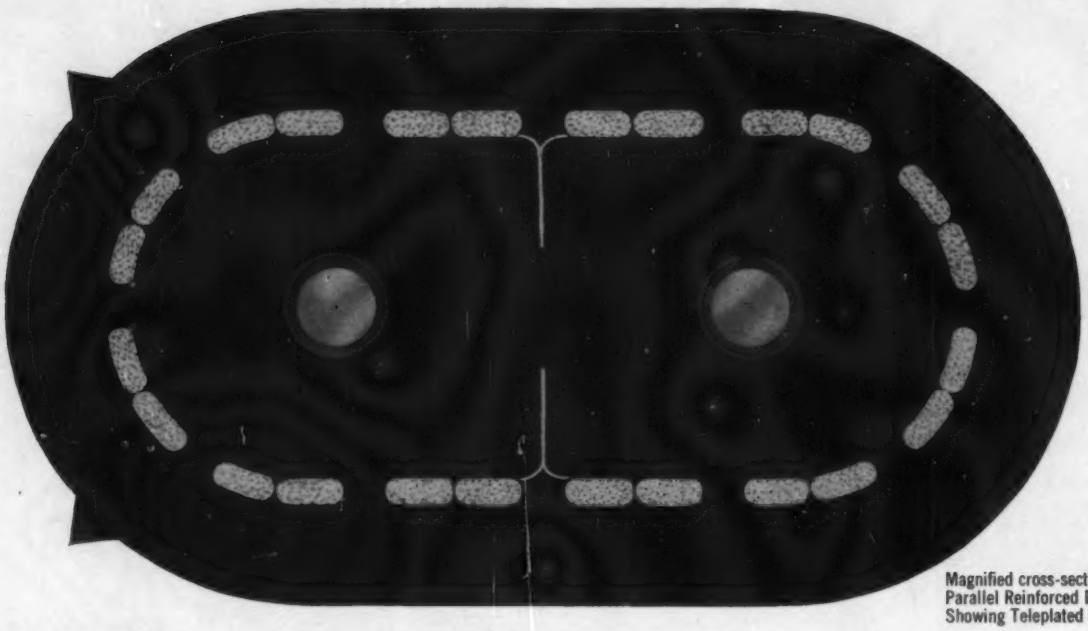

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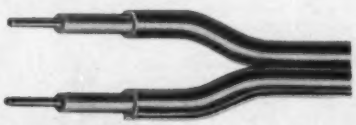
Rubber-insulated conductors have a tough textile wind between the insulation and Neoprene jacket to increase strength and durability.



TWIN PARALLEL

Rubber insulated conductors are jacketed with Neoprene in a figure 8 shape.

TWISTED PAIR

Two individual conductors, rubber insulated and Neoprene jacketed, then twisted together.

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T-6 . . . Telephone Wire and Cable
T-8 . . . Figure 8 Distribution Wire

rary information storage which is used in the handling of visual information. This film has an unusual feature in that the film viewers are given an opportunity to participate in the experiments by testing their own visual memory of items flashed on the screen.

"Domains and Hysteresis in Ferromagnetic Materials" (16mm; sound; color; 36 min.) discusses the theory of ferromagnetic domains and its relationship to hysteresis in magnetic materials. Actual motion pictures of moving domain walls are shown. The origin of coercive force is also discussed.

This motion picture develops further some of the information that was presented in a previously released sound filmstrip, entitled "The Formation of Ferromagnetic Domains."

Other available films in the Bell Laboratories college science film series are:

"Brattain on Semiconductor Physics" (16mm; black and white, sound; 30 min.).

"Submarine Cable System Development" (16mm; color; sound; 18 min.).

"Crystals—An Introduction" (16mm; color; sound; 25 min.).

"Memory Devices" (16mm; color; 28 min.).

"Zone Melting" (sound filmstrip; color; 133 frame; 45 min.).

A two-record album entitled "The Science of Sound", containing demonstrations of acoustic phenomena, has also been produced.

All audio-visual aids to science education in this series are designed for classroom use and contain no advertising.

NACE Sets One-Day Meet at St. Paul on Corrosion

Corrosion, the destructive deterioration of metal that costs Americans more than 6 billion dollars annually, will be discussed by a group of experts at a one-day short course to be held at the St. Paul (Minn.) Hotel on Feb. 22, the Twin City Section of the National Association of Corrosion Engineers has announced.

Dr. M. Nicholson, head of the department of metallurgy at the University of Minnesota, will introduce the course, and Minnesota Gov. Elmer L. Andersen will address a luncheon session.

Included in the program will be the following talks:

"Cathodic Protection", a method of reversing electro-chemical force to mitigate metal destruction, will be the subject of a discussion by A. W. Peabody, corrosion engineer from Ebasco Services, Inc., New York City.

A. J. Freeman, research engineer, Nalco Chemical Co., Chicago, Ill., will explain corrosion control through use of special chemicals in an address on "Corrosion Inhibitors".

Dr. H. F. Haase, consulting corrosion engineer, Milwaukee, Wis., will discuss "Organic Coatings"; and C. J. O'Boyle, district manager, Metco, Inc., Chicago, will speak on "Metal Cladding".

Hosted by the Twin City section, the session has drawn attendance applications from more than 50 individuals and representatives of industries concerned with corrosion problems in Minnesota, Montana, both Dakotas, Wisconsin, Iowa, Illinois, Indiana, Ohio, Missouri, Nebraska, and Wyoming.

James F. Williams, Twin City section chairman, said the course is the first of a planned annual series which the group hopes to expand to a week-long session in the future.

Holan of Georgia Merged With Parent Company

J. Howard Holan, president of Holan Corp., has announced that the wholly-owned subsidiary, Holan Corp. of Georgia, is dissolved and the plant at Griffin, Ga., is now under the management of Holan Corp.'s Cleveland office.

Mr. Holan said that "contrary to false rumors, the change, in no way, affects the physical operation of the Griffin plant. The basic reason for the change, which became effective Feb. 1, was to improve management, quality of product and service to utility customers in the South."

The Griffin sales department was consolidated into the Cleveland office so that the Utilities Equipment Division of Holan Corp. now has a single sales force.

Daniel L. Zwight, an engineer and manager, has been made plant manager, and Cliff Booker has been appointed manager of inside sales for the operation at Griffin.

Burton Northeast Electronics Representative in Midwest

Peter G. Burton, of Manchester, N. H., has joined the sales engineering staff of the Northeast Electronics Corp., it was announced recently by William B. Wilkens, vice president of the company.

Mr. Burton will be covering the midwestern states for Northeast and will work out of the home office in Concord, N. H.

He is a native of Watertown, N. Y. and attended Syracuse University.

For the past three years, he was affiliated with ITT Kellogg Corp. During the previous seven years, he was employed by Western Electric.

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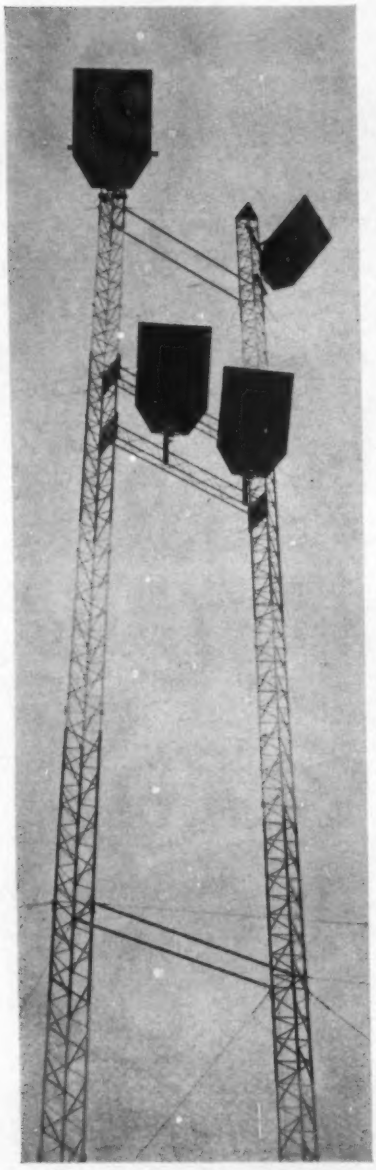

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Posing with plaques awarded Bell of Pa. for highway safety program are, l. to r.: W. D. Gillen, president; Samuel McKay Jr., safety director, Gov. David L. Lawrence. Rear: R. M. Wachob, vice president-operations; Murdock McLeod, vice president-general manager, central area, and O. D. Shipley, state traffic safety commissioner.

Bell of Pa. Gets State's 1961 Traffic Safety Award

Pennsylvania's governor, David L. Lawrence, on Feb. 1 presented the commonwealth's traffic safety award for 1961 to the Bell Telephone Co. of Pennsylvania for "outstanding contributions to the cause of traffic safety."

The award was accepted by W. D. Gillen, president of Bell of Pennsylvania.

The governor commended the company for its sponsorship of community safety programs throughout the state, as well as for its intensive employe safety program.

"Bell Telephone and its 31,000 employes helped make Pennsylvania's streets and highways the safest on record during 1961," the governor said.

The governor also presented a parallel safety award to Samuel McKay Jr., Bell's safety director. Mr. McKay has been an active member of the governor's traffic safety council and other safety organizations.

Commissioner of traffic safety O. D. Shipley noted that the telephone company's community programs include a defensive driving course, pedestrian and motor vehicle safety instruction in the elementary schools, and other projects aimed at teaching children the basics of safe driving and the dangers of playing in the streets.

He also praised the company for the fine safety record compiled by its 10,500 regular and part-time drivers operating a fleet of 5,900 motor vehicles some 50 million miles a year on the streets and highways of the state.

Defense Department Directory

The telephone directory of the Department of Defense can now be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for $1.25 per copy. This directory lists the telephones of the Department of Defense, Army, Navy and Air Force in the Washington Metropolitan Area.

Company to Sell, Service Highway Trailer Products

A new company, Eastern Earth Boring & Equipment Co., has been formed by Encon, Inc., to sell, service and distribute utility products of Highway Trailer Industries of Stoughton, Wis. The new company will have headquarters in Luzerne, Pa. J. W. Putt,

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president of Encon, Inc. is president of Eastern Earth Boring & Equipment Co. He formerly was with Hahn Motors of Hamburg, Pa., Public Service Co. of Pennsylvania and Wyoming Valley Equipment Co. of Kingston, Pa.

Walter G. Arnold is executive vice president of the new company. He previously held the same position with Wyoming Valley Equipment Co.

Walter Remphrey and Frank Hanczyc have been elected treasurer and secretary, respectively, of the Eastern Earth Boring Co. They also were formerly connected with the Wyoming Valley company.

Nigerian Studies Telephony, Completes AE Training

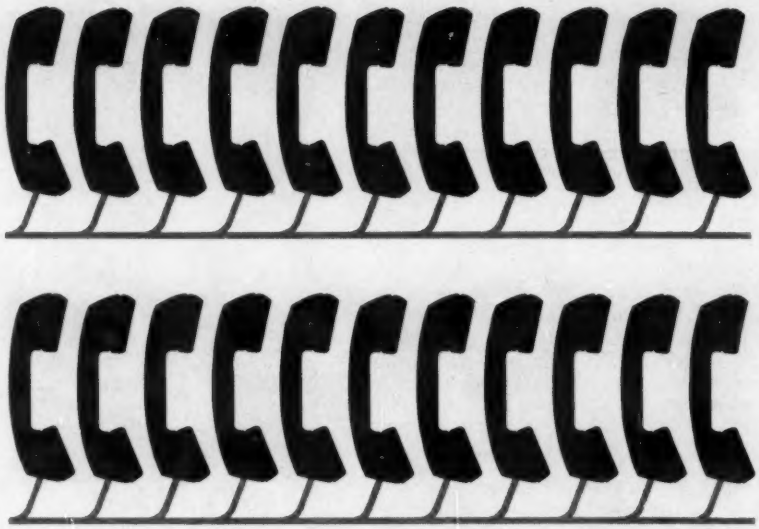
A certificate of excellent performance was recently conferred upon Ema E. Udo-Ema Jr. after his completion of a seven-week Automatic Electric telephone exchange training course. Mr. Udo-Ema is being sponsored in the U. S. by the Posts & Telegraphs Division, Ministry of Communications, of the territory of Lagos, in his native Nigeria.

He is now in Bloomington, Ill., studying the operation and maintenance procedures of the General Telephone Co. of Illinois.

From Bloomington, he will go to Lenkurt Electric Co., Inc., San Carlos, Calif., to study carrier and microwave equipment.

Mr. Udo-Ema will later return to

Ema E. Udo-Ema Jr. points out his native Nigeria on the west coast of Africa to Charles Horne, district manager of Automatic Electric International. Mr. Udo-Ema is studying telephone equipment and maintenance in the U. S., and has recently completed telephone exchange course at Automatic Electric, Northlake, Ill.



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Nigeria to apply his knowledge of telephony.

Nigeria, a country of 40 million people, acquired its independence in October, 1960 and became the 99th member of the United Nations. It is a member of the British Commonwealth. Situated on the west coast of Africa, Nigeria is mineral-rich, and is the world's largest producer of columbite used in rocket nose-cones.

After attending schools in Nigeria and in England, Mr. Udo-Ema came to the U. S. in January, 1958 to attend Purdue University. He was graduated in January, 1961 with a B. S. degree in electrical engineering. He is an associate member of AIEE.

GD/T Appoints Seibert Supt. Of Electronic Assembly

A new position, superintendent of electronic assembly, has been created by General Dynamics/Telecommunication. Robert M. Seibert, former manager of engineering administration, has been named to the post; he will report to N. C. Vandagriff, manager of production for GD/T.

The enthusiasm for the new Stromberg-Carlson electronic telephone systems, GD/T said, led to the decision to produce electronic PBX and central office switching equipment.

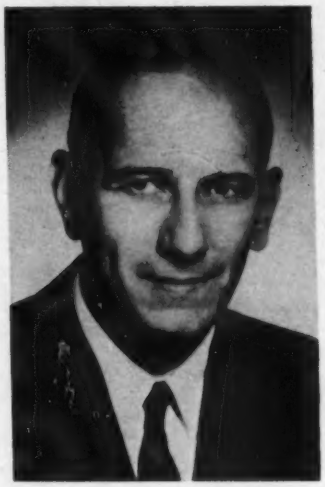
R. M. SEIBERT

Mr. Seibert joined Stromberg-Carlson in 1945 as an engineer, and later became director of the engineering laboratory.

Gordon L. Nord Elected President, Schauer Mfg.

Gordon L. Nord was elected president of the Schauer Mfg. Corp. at a recent meeting of the corporation's board of directors. Former president A. J. Kohn was elected chairman of the board, after serving as head of the company since 1929.

Mr. Nord was graduated from Purdue University with a B.S. degree in electrical engineering in 1932, and received his M.S. from the same university in 1934.



G. L. NORD

He joined the Schauer organization in 1936 and became a partner and chief engineer in 1939.

Mr. Nord was named vice president of the company, which had then in-

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corporated, in 1947. He is a member of the semiconductor rectifier section of the National Electrical Manufacturers Association; the American Institute of Electrical Engineers, and the Institute of Radio Engineers.

The Schauer Corporation manufactures battery chargers and battery eliminators for telephone and telegraph service, transformers, miniature silicon varistors, and silicon, copper oxide and selenium rectifiers for testing, metering, instrument and similar use.

Hold ITT Kellogg Carrier School At Brownwood, Tex.

A special three-day training session was held recently on ITT Kellogg's transistorized carrier equipment in the plant training school at the Southwestern States Telephone Co.'s general office in Brownwood, Tex.

The school was conducted by Don Kempf, training instructor for the ITT Kellogg division at Raleigh, N. C.

Engineering and plant personnel from the Southwestern States company and two plant employes from Southwestern Bell Telephone Co. attended the school.

Also on hand were Gerald Ratliff, ITT Kellogg sales manager, Raleigh, and John Smith, ITT Kellogg sales engineer, Dallas, Tex.

Actual working models of the carrier equipment were used for instruction in installation, alignment, and maintenance. Application of the equipment was also discussed.

Sandall Heads AE Warehouse In Hawaiian Islands

Robert F. Sandall has been named manager of a new 10,000-square-foot warehouse in Honolulu, opened by Automatic Electric Sales at the beginning of this year.

Since August 1960, Mr. Sandall has been an engineering representative for the government sales division of Automatic Electric Co.

Prior to joining Automatic Electric, Mr. Sandall was a contract technician for the U. S. Air Force at Westover AFB, Mass. During his military service, he served with the U. S. Army Signal Corps as a non-commissioned officer in charge of telephone maintenance.

In addition to managerial duties, he will do liaison work with government agencies in the Hawaiian Islands.

Sandall is a member of the AFCEA (Armed Forces Communication & Electronics Association).

Don Kempf, extreme right, training instructor for ITT Kellogg, recently conducted a special school on Kellogg's transistorized carrier equipment at the Southwestern States Telephone Co.'s plant training school in Brownwood, Tex. Shown attending a class, are, front row, left to right: Bill Drinkwater and James Price, central office repairmen, Jacksonville, Ark.; Henry Hesse, Howard McQueen, and Elton Wells, installers, Brownwood; Hugo Boos, central office repairman, Fredericksburg, Tex.;Tom McCallum, assistant equipment engineer, and Don German, equipment maintenance supervisor, Brownwood. Second row: Del Royce Brooks, installer, Stuttgart, Ark.; Morris Witt, installer, Omaha, Tex.; Robert Hitt, carrier engineer, Brownwood; Burrell Willett, installer, Bryan, Tex.; Charles Gamblin, central office repairman, Brownwood; Jimmy Lewis and Bill Drackett, central office repairmen, Welsh, La.; Jack Gauntt, installer, Henderson, Tex.; Jack Gibson, Ranger, Tex., and Frank Young, Cleburne, Tex., plant employes of Southwestern Bell Telephone Co. Third row: Calvin Fryar, student engineer, Brownwood; Garnett Keithley, division maintenance supervisor, Stuttgart, Ark.; James Lancaster, dial equipment instructor, and Tommy DeHay, equipment engineer, Brownwood; Gerald Ratliff, Kellogg sales manager, Raleigh, N. C., and John Smith, Kellogg sales engineer, Dallas, Tex.

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30	Jack, Spring Strip W.E. #49 on #168 Mtg. 20 per	(New)
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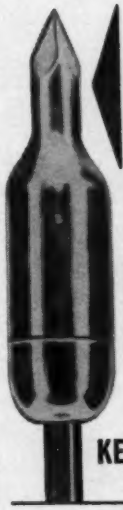

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